

## **ICP Test Report Certification Packet**

Company name:	Littelfuse, Inc.
Product Series:	3AB Fuse
Product #:	314xxxP Series
Issue Date:	December 15, 2012
2011/65/EU)-restricted s packing/packaging mater In addition, it is hereby refor unit parts, the packing	Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC/ubstance nor such use, for materials to be used for unit parts, for rials, and for additives and the like in the manufacturing processes. Exported to you that the parts and sub-materials, the materials to be used /packaging materials, and the additives and the like in the manufacturing pased of the following components.
	Issued by: KRISTEEN BACILA  Global EHS Engineer>
(1) Parts, sub-materials This document co- Littelfuse, Inc.	
< Raw Materials U	
· ,	measurable substances propriate pages as identifed in Table 1
Remarks :	



Table 1: List of Raw Materials covered by this report

<b>Total Parts</b>	Raw Material Part Number	Raw Material Description	Page(s)
1	910-282/ 910-005	Cap	3-6
2	C610 (909-162, 909-165, 909-532)	Ceramic Tube - Body	7-30
3	(3M-3779-PG) 087244	HMA	31-37
4	10-1185 (497xxx-001)	Element – Ni42Fe58MCuMSn	38-44
5	4-1357 (497xxx)	Ni 99.9	45-51
6	082xxx	Element - Ag Plated Cu	52-61
7	082xxx-001	Element - 99% Cu Sn Plated	62-71
8	YTW206 (692529)	Solder	72-76
9	AIM230 Fastcore H RSA605 (692539-003)	Solder	77-81
10	090187	Filler	82-88
11	090184	Filler	89-96
12	425901	Ink-Red	97-107
13	425902	Ink-Black	108-118
14	425904	Ink-Blue	119-129
15	425900	Ink-orange	130-140
16	425903	Ink-yellow	141-151
17	425907	Ink -green	152-162
18	425911	Ink-violet	163-173
19	934-006/934-057/ 934-058/934-061	Overcap (Fuse Copper Shell) ( Base & Plating)	174-177
20	091254	Mineral Sand	178-184
21	YTW108 (692535-003)	Solder	185-189
22	EP608 (087355)	Glue (RoHS & Halogens)	190-201
0.0	LF079020 (079xxx, 917-445xxxxxx-P/	0 440 00 00 00 00 00 00 00 00 00 00 00 0	000 005
23	917-480xxxx-P)	Cu 110 Strip with Center Overlay	202-205
24	917-481xxxx-P	Element – Zinc Alloy	206-209



NO.: A002R12050740-1R02 Date: May. 09, 2012 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: / Buyer: / Supplier: /

Manufacturer: /

Sample received date: May. 07, 2012

Testing period: From May. 07, 2012 to May. 09, 2012

### **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:

## 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)\*\*\*\*\*\*

Signed for and on behalf of Shenzhen AOV Testing Technology Co., Ltd, Kunshan Branch

Project Leader:

Li Tingting, Maggie

Chemical Test Director

Reviewed by: Weik

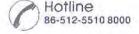
Wang Wexin, Weikin

Technical Director

Approved by:

Yuan Qi, Mickey

Lab Manager



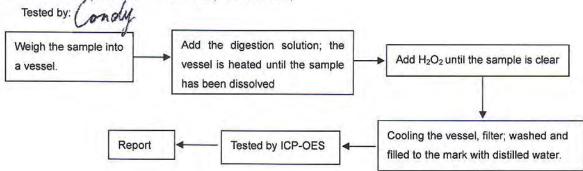
<sup>-\* 0.02</sup> mg/kg refers to the MQL of sample extraction liquid.



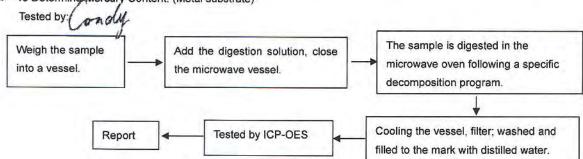
NO.: A002R12050740-1R02 Date: May. 09, 2012 Page 2 of 4

### Test Flow:

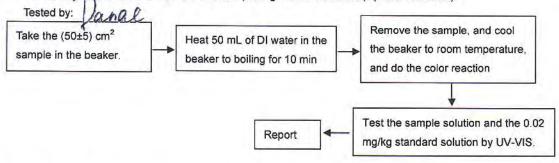
1. To Determine Lead, Cadmium Content: (Metal substrate)



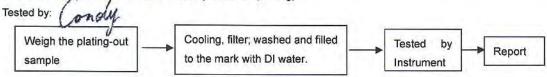
2. To Determine Mercury Content: (Metal substrate)



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



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







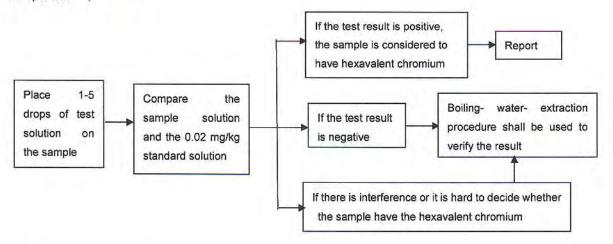
NO.: A002R12050740-1R02

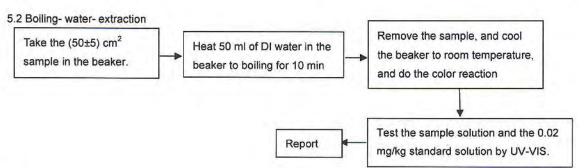
Date: May. 09, 2012

Page 3 of 4

To Determine Hexavalent Chromium Content in colorless and colored chromate coating on metals: (Plating)
 Tested by: 1







### Sample Description:

Code	Sample Description
1-1	Substrate
1-2	Plating

## Test Results:

Item	Unit	RoHS Limit	Res	ults
_			1-1	1-2**
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





NO.: A002R12050740-1R02 Date: May. 09, 2012

Page 4 of 4

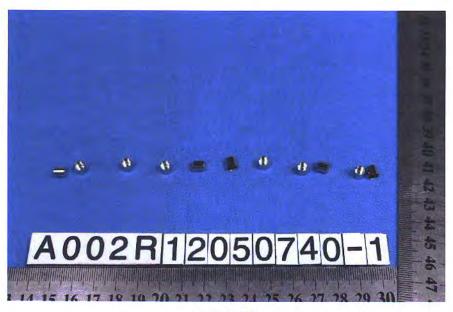
### Note:

- -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\*\*\*





Validity unknown Please Contact with SGS www.tw.sgs.com

**Test Report** 

Page: 1 of 24 No.: CE/2012/14843A Date: 2012/02/04

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Description

: CERAMIC

Style/Item No.

C610

Sample Receiving Date

: 2012/01/30

Testing Period

: 2012/01/30 TO 2012/02/04

Test Result(s)

: Please refer to next page(s).

Conclusion

Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Hexavalent Chromium Cr(VI), PBBs and PBDEs comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Chenyu Kung Signed for and on 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之樣品負責。本報告未經本公司書前記,不可部分複聚。 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/lerms\_and\_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/en/Terms-en-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 2 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY | A148 | (A111 | | W141 | 160 | 160 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 |

### Test Result(s)

PART NAME No.1 : WHITE CERAMIC

Toot Itom(a)	Unit Method	MDL	Result	Limit	
Test Item(s)	Unit	Wethod	MUL	No.1	Limit
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	100
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	178	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	1000
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	1000
Polychlorinated Biphenyls (PCBs) (CAS No.: 1336-36-3)	mg/kg	With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.5	n.d.	-
Polychlorinated Terphenyls (PCTs)	mg/kg	With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.5	n.d.	
Polychlorinated Naphthalene (PCNs)	mg/kg	With reference to US EPA 3540C method. Analysis was performed by GC/MS.	5	n.d.	- 4 9
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 85535-84-8)	%	With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.01	n,d.	
Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.	-
PFOA (CAS No.: 335-67-1)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.	-
Formaldehyde (CAS No.: 50-00-0)	mg/kg	With reference to ISO 17226-1(2008). Analysis was performed by HPLC/DAD.	3	n.d.	13
PVC	**	Analysis was performed by FTIR and FLAME Test.	÷	Negative	

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,此類指語果特對測試之樣品負責。本報告来極本公司書店許可,不可部分複製。 vailable on request or accessible at www.sgs.com/terms\_and\_conditions.htm and, for electronic format documents, subject to tits General Conditions for Electronic Documents at www.sgs.com/terms\_and-Conditions/Terms-e-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 3 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

	120 800	11 20 00 1	2001	Result	74-42
Test Item(s)	Unit	Method	MDL	No.1	Limit
BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	1
DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.	-
DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.	
DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	2
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.	
Monomethyl dibromodiphenyl methane (DBBT)	mg/kg	With reference to US EPA 8270D method. Analysis was performed by GC/MS.	0.5	n.d.	- 03 <del>-</del> 0
Monomethyl dichlorodiphenyl methane (Ugilec121)	mg/kg	With reference to US EPA 8270D method. Analysis was performed by GC/MS.	0.5	n.d.	17
Monomethyl tetrachlorodiphenyl methane (Ugilec141)	mg/kg	With reference to US EPA 8270D method. Analysis was performed by GC/MS.	0.5	n.d.	1
Organic-tin compounds					
Tributyl Tin (TBT)	mg/kg	With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.	-
Triphenyl Tin (TphT)	mg/kg	With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.	
Halons					
Halon-1211 (CAS No.; 353-59-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Halon-1301 (CAS No.: 75-63-8)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	3.
Halon-2402 (CAS No.: 124-73-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	7.3

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,此概告結果悔贄制武之樣品負責。本報告未經本公司書面許可,不可能分複製。 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\_and-conditions/Terms-e-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 4 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

4 - 00 - 10	0.32	Unit Method	MDL	Result No.1	Limit
Test Item(s)	Unit		MDL		
Halogen		Maria and American and American			
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.	1
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	•
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	100
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	134
Asbestos					
Actinolite (CAS No.: 77536-66-4)	%	With reference to EPA 600/R-93/116 method. Analysis was performed by SM, PLM and XRD.	1	Negative	
Amosite (CAS No.: 12172-73-5)	%	With reference to EPA 600/R-93/116 method. Analysis was performed by SM, PLM and XRD.	1	Negative	- 1
Anthophyllite (CAS No.: 77536-67- 5)	%	With reference to EPA 600/R-93/116 method. Analysis was performed by SM, PLM and XRD.	1	Negative	
Chrysotile (CAS No.: 12001-29-5)	%	With reference to EPA 600/R-93/116 method. Analysis was performed by SM, PLM and XRD.	1	Negative	
Crocidolite (CAS No.: 12001-28-4)	%	With reference to EPA 600/R-93/116 method. Analysis was performed by SM, PLM and XRD.	1	Negative	
Tremolite (CAS No.: 77536-68-6)	%	With reference to EPA 600/R-93/116 method. Analysis was performed by SM, PLM and XRD.	1	Negative	-

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,此報告結果恪對測式之樣品負責。本報告未經本公司書面許可,不可能分複製。
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\_and-Conditions/Terms-e-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 5 of 24

**CERAMTEC GMBH** MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

Toot Itom(a)	Unit	nit Method	MDL	Result No.1	Limit
Test Item(s)	Unit	Wettlod	MUDE		
Sum of PBBs			-	n.d.	1000
Monobromobiphenyl	mg/kg mg/kg mg/kg mg/kg mg/kg		5	n.d.	
Dibromobiphenyl			5	n.d.	
Tribromobiphenyl			5	n.d.	1.5
Tetrabromobiphenyl			5	n.d.	4
Pentabromobiphenyl		1	5	n.d.	- 04
Hexabromobiphenyl			5	n.d.	-
Heptabromobiphenyl	mg/kg mg/kg mg/kg mg/kg		5	n.d.	-
Octabromobiphenyl		With reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.	12.
Nonabromobiphenyl			5	n.d.	- 8
Decabromobiphenyl	20 at 11 a 2		5	n.d.	10-
Sum of PBDEs	mg/kg			n.d.	1000
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.	- 4
Decabromodiphenyl ether			5	n.d.	
AZO					
1): 4-AMINODIPHENYL (CAS No.: 92-67-1)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	- 12
2): BENZIDINE (CAS No.: 92-87- 5)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
3): 4-CHLORO-O-TOLUIDINE (CAS No.: 95-69-2)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	
4): 2-NAPHTHYLAMINE (CAS No.: 91-59-8)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	
5): O-AMINOAZOTOLUENE (CAS No.: 97-56-3)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	13.

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 除非另有證明,此機告結果僅對測試之樣品負責。本程告未經本公司者宣訊可,不可能分複製。
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/en/Terms-and-Conditions/Terms-e-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 6 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

Test Item(s)	Unit	nit Method	MDL	Result	Limit
	Oille	Wethod	WIDE	No.1	
6): 2-AMINO-4-NITROTOLUENE (CAS No.: 99-55-8)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	0.9
7): P-CHLOROANILINE (CAS No.: 106-47-8)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
8): 2,4-DIAMINOANISOLE (CAS No.: 615-05-4)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	1
9): 4,4'- DIAMINODIPHENYLMETHANE (CAS No.: 101-77-9)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	3
10): 3,3'-DICHLOROBENZIDINE (CAS No.: 91-94-1)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	1.00
11): 3,3'-DIMETHOXYBENZIDINE (CAS No.: 119-90-4)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
12): 3,3'-DIMETHYLBENZIDINE (CAS No.: 119-93-7)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	
13): 3,3'-DIMETHYL-4,4'- DIAMINODIPHENYLMETHANE (CAS No.: 838-88-0)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	
14): P-CRESIDINE (2-METHOXY- 5-METHYLANILINE) (CAS No.: 120-71-8)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
15): 4,4'-METHYLENE-BIS- (2- CHLOROANILINE) (CAS No.: 101-14-4)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	
16): 4,4'-OXYDIANILINE (CAS No.: 101-80-4)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
17): 4,4'-THIODIANILINE (CAS No.: 139-65-1)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
18): O-TOLUIDINE (CAS No.: 95- 53-4)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
19): 2,4-TOLUYLENEDIAMINE (CAS No.: 95-80-7)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	
20): 2,4,5-TRIMETHYLANILINE (CAS No.: 137-17-7)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	7.5
21): O-ANISIDINE (CAS No.: 90- 04-0)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	7

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.除非另行說明,此報告結果係對測試之樣品負責。本報告未經本公司暫頂許可,不可部分複製。 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/en/Terms-and-Conditions/Terms-e-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

E 215 20 3 20	ad. le	5 2 2 2 C	Manu	Result	7.5.0
Test Item(s)	Unit	Method	MDL	No.1	Limit
22): P-AMINOAZOBENZENE (CAS No.: 60-09-3)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
23): 2,4-XYLIDINE (CAS No.: 95- 68-1)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	-
24): 2,6-XYLIDINE (CAS No.: 87- 62-7)	mg/kg	With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.	•
CFC's (Chlorofluorocarbons)					
Group I					
Chlorofluorocarbon-11 (CAS No.: 75-69-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	1
Chlorofluorocarbon-12 (CAS No.: 75-71-8)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-113 (CAS No.: 76-13-1)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	14.÷
Chlorofluorocarbon-114 (CAS No.: 76-14-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-115 (CAS No.: 76-15-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Group III					
Chlorofluorocarbon-13 (CAS No.: 75-72-9)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-0-7
Chlorofluorocarbon-111 (CAS No.: 354-56-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	-1	n.d.	
Chlorofluorocarbon-112 (CAS No.: 76-12-0)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-211 (CAS No.: 422-78-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	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 脉序另合规则,此数容结果性对测试之模品负责。本数告未經本公司再当許可,不可部分模数。 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/ter/Terms-and-Conditions/Terms-e-Document. Attention is referred to the firmitation of liability, indemnification 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 8 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

Test Item(s)	Unit	Method	MDL	Result No.1	Limit
Chlorofluorocarbon-212 (CAS No.: 3182-26-1)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-213 (CAS No.: 2354-06-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-214 (CAS No.: 29255-31-0)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-215 (CAS No.: 4259-43-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-216 (CAS No.: 661-97-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chlorofluorocarbon-217 (CAS No.: 422-86-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
CHCs (Chlorinate hydrocarbon)					
1,1,1,2-Tetrachloroethane (CAS No.: 630-20-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	- 1	n.d.	
1,1,1-Trichloroethane (CAS No.: 71-55-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
1,1,2,2-Tetrachloroethane (CAS No.: 79-34-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
1,1,2-Trichloroethane (CAS No.: 79-00-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	<u>ģ</u> i
1,1-Dichloroethane (CAS No.: 75-34-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
1,1-Dichloroethene (CAS No.: 75-35-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	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,此機告結果後對測試之樣結負資。本報告未經本公司書店許可,不可部分模製。 This document is issueed by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms\_and\_conditions/ferms-e-Document. Attention is drawn to the and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/en/Terms-and-Conditions/Terms-e-Document. Attention is advant to the limitation of liability, indemnification and jurisdiction is suess 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.

Dogulé



No.: CE/2012/14843A Date: 2012/02/04 Page: 9 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

		444	*****	Result	Limit
Test Item(s)	Unit	Method	MDL	No.1	Limit
,1-Dichloropropene (CAS No.: 563-58-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
1,2,3-Trichloropropane (CAS No.: 96-18-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	•
1,2-Dichloroethane (CAS No.: 107-06-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	+
1,2-Dichloropropane (CAS No.: 78-87-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
1,3-Dichloropropane (CAS No.: 142-28-9)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
2,2-Dichloropropane (CAS No.: 594-20-7)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Carbon tetrachloride (CAS No.: 56-23-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chloroethane (CAS No.: 75-00-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Chloroform (CAS No.: 67-66-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
Chloromethane (CAS No.: 74-87- 3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	ė.
cis-1,2-Dichloroethene (CAS No.: 156-59-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	7.75
cis-1,3-Dichloropropene (CAS No.: 10061-01-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	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,除非另行說明,此報告結果強對測試之樣品負責。本報告未經本公司書面完可,不可部分複製。和認識的 request or accessible at www.sgs.com/terms\_and\_conditions.htm and, for electronic format documents, subject to its General Conditions for Electronic Documents at www.sgs.com/en/Terms-end-Conditions/Terms-e-Document. 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 faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



No.: CE/2012/14843A Date: 2012/02/04 Page: 10 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

2000 000 000 000 000 000 000 000 000 00	T. 43 Tay	200.000		Result	Limit
Test Item(s)	Unit	Method	MDL	No.1	Limit
Hexachlorobutadiene (CAS No.: 87-68-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
Methylene Chloride (CAS No.: 75- 09-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Tetrachloroethene (CAS No.: 127- 18-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
trans-1,2-Dichloroethene (CAS No.: 156-60-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	1
trans-1,3-Dichloropropene (CAS No.: 10061-02-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
Trichloroethylene (CAS No.: 79- 01-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	14
HCFCs (Hydrochlorofluorocarbons)					
HCFC-21 (CAS No.: 75-43-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-22 (CAS No.: 75-45-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-31 (CAS No.: 593-70-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	1 - 31
HCFC-121 (CAS No.: 354-14-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-122 (CAS No.: 354-21-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	Ť

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 除非另有證明,此報告結果儀對測試之樣品負責。本類告未經本公司書官許可,不可能分複製。 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 Focuments at www.sgs.com/en/Terms-and-Conditions/Terms-e-Document. 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 sole responsibility is to its Client and this document does not exonerate parties to a 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 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 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 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 of the company and within the limits of Client's instructions.



No.: CE/2012/14843A Date: 2012/02/04 Page: 11 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

2000.00.14	10.60	24.0.40	MINI	Result	Limit
Test Item(s)	Unit	Method	MDL	No.1	Limit
HCFC-123 (CAS No.: 306-83-2)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-124 (CAS No.: 2837-89-0)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	1
HCFC-131 (CAS No.: 359-28-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	ÿ.
HCFC-132b (CAS No.: 1649-08-7)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	4
HCFC-133a (CAS No.: 75-88-7)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	4
HCFC-141b (CAS No.: 1717-00-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-142b (CAS No.: 75-68-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	÷
HCFC-221 (CAS No.: 422-26-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-222 (CAS No.: 422-49-1)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-223 (CAS No.: 422-52-6)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	100
HCFC-224 (CAS No.: 422-54-8)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-225ca (CAS No.: 422-56-0)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	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 除非另有證明,此類告結果佈對測試之樣品負責。本報告未經本公司書面許可,不可部分複要。 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/en/Terms-and-Conditions/Terms-e-Document. 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 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 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 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 company and within the limits of Client's instructions. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 12 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

Test Item(s)	Unit	Method	MDL	MDL Result	
HCFC-225cb (CAS No.: 507-55-1)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-226 (CAS No.: 431-87-8)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	1.
HCFC-231 (CAS No.: 421-94-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-232 (CAS No.: 460-89-9)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-233 (CAS No.: 7125-84-0)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-234 (CAS No.: 425-94-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	7
HCFC-235 (CAS No.: 460-92-4)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-241 (CAS No.: 666-27-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-242 (CAS No.: 460-63-9)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-243 (CAS No.: 460-69-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-244	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	
HCFC-251 (CAS No.: 421-41-0)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	9

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:此報告結果係對測試之樣品負責。本報告未經本公司書面許可,不可能分複製。
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 for Electronic Documents at www.sgs.com/en/Terms-and-Conditions/Terms-e-Document. 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.



Page: 13 of 24 No.: CE/2012/14843A Date: 2012/02/04

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

Test Item(s)	Unit	Method	MDL	Result	Limit	
200			0.190	No.1	-111116	
HCFC-252 (CAS No.: 819-00-1)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.		
HCFC-253 (CAS No.: 460-35-5)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	1	
HCFC-261 (CAS No.: 420-97-3)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.	(B)	
HCFC-262 (CAS No.: 421-02-03)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.		
HCFC-271 (CAS No.: 430-55-7)	mg/kg	With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	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. Negative = Undetectable / Positive = Detectable
- 7. Asbestos : Negative = "< 1.0 %", Positive = "> 1.0 %"

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

Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above 1µg/m2.

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之樣品負責。本報告未輕木公司書面許可,不可能分模製。 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/en/Terms-and-Conditions/Terms-e-Document. 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.

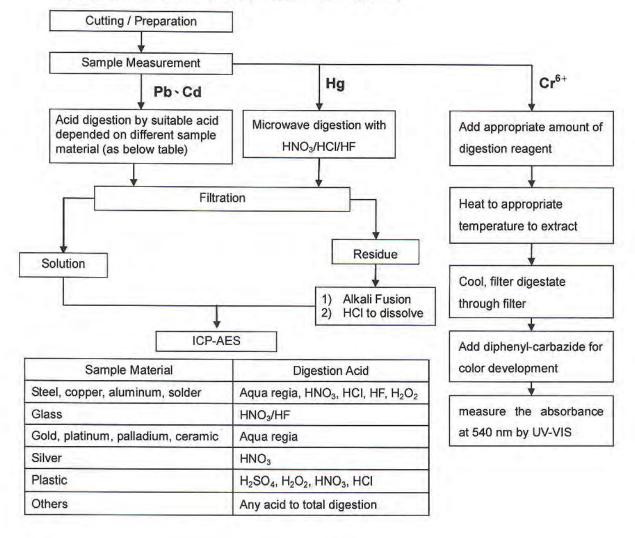


No.: CE/2012/14843A Date: 2012/02/04 Page: 14 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



- 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



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,除非另行說明。此報告結果僅對測試之樣品負責。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 for Electronic Documents at www.sgs.com/en/Terms-end-Conditions/Terms-e-Document, stubject to Terms and Conditions for Electronic Documents at www.sgs.com/en/Terms-end-Conditions/Terms-e-Document, 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 15 of 24

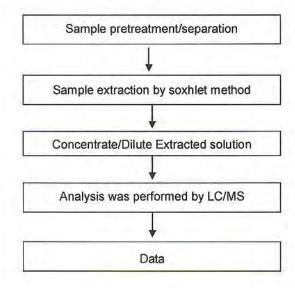
CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



## Analytical flow chart of Soxhlet extraction (LC/MS) procedure

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

[ Test Items: PFOS/PFOA · Benzotriazole ]



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,此報告結果恪對測試之樣品負責。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/en/Terms-and-Conditions/Terms-e-Document. 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.

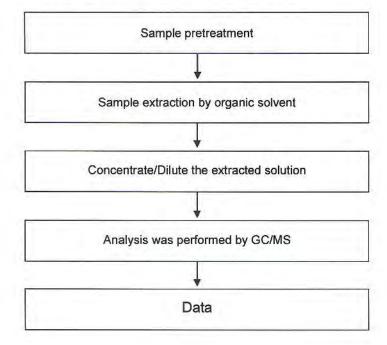


No.: CE/2012/14843A Date: 2012/02/04 Page: 16 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

## Chlorinated Flame retardant analytical flow chart

- 1) Name of the person who made measurement: Barry Tseng
- 2) Name of the person in charge of measurement: Troy Chang
- Reference method: US EPA 8270D, US EPA 3540
- Test Items: PCBs, PCNs, PCTs, Mirex, CP, MCCP



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,此報告結果保對測試之樣品負責。本報告未經本公司書面許可,不可部分複製。 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/en/Terms-and-Conditions/Terms-e-Document. 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.



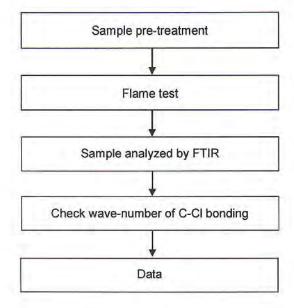
No.: CE/2012/14843A Date: 2012/02/04 Page: 17 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

### 

### Analysis flow chart for determination of PVC in material

- Name of the person who made measurement: Ginny Chen
- 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 除非另行說明。此報告結果僅對測試之樣品負責。本報告未經本公司再往許可,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\_and-Conditions/Terms-e-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 18 of 24

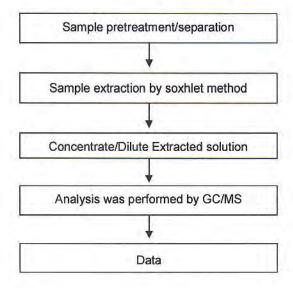
**CERAMTEC GMBH** MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



## Analytical flow chart of Soxhlet extraction (GC/MS) procedure

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

[Test Items: Phthalate . Benzotriazole . HBCDD . NP . DBBT . Organic phosphorus compounds ]



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 脉非另有說明,此與告結果僅對測試之樣品負責。本報告未經本公司書面許可,不可部分複製。 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/en/Terms-and-Conditions/Terms-e-Document. 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.



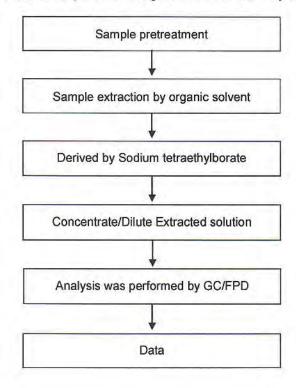
No.: CE/2012/14843A Date: 2012/02/04 Page: 19 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



## Analytical flow chart of Organic-Tin content

- Name of the person who made measurement: Ginny Chen
- 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,此類冷结果像對測試之樣品負責。本報告未經本公司書原許可,不可部分複製。 vailable 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/en/Terms-and-Conditions/Terms-e-Document. 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.



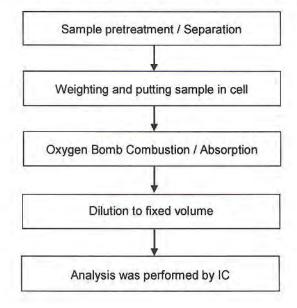
No.: CE/2012/14843A Date: 2012/02/04 Page: 20 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY

## 

## Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Rita Chen
- 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 除非分有說明,此微告結果惟對測試之樣品負責。本報告未經本公司再面許可,不可能分複製。 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/en/Terms-and-Conditions/Terms-e-Document. 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.



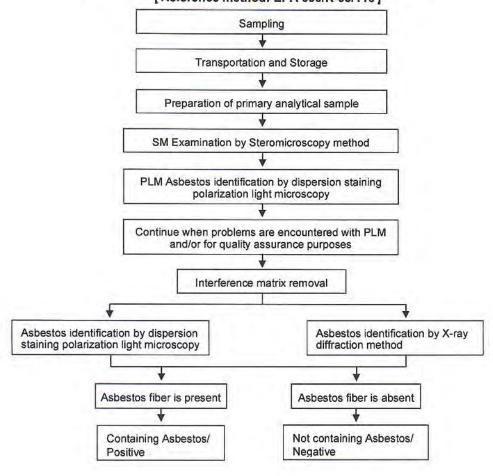
No.: CE/2012/14843A Date: 2012/02/04 Page: 21 of 24

CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



## Analysis flow chart for determination of Asbestos

- 1) Name of the person who made measurement: Victor Kao
- 2) Name of the person in charge of measurement: Wendy Wei [Reference method: EPA 600/R-93/116]



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之樣品負責。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 Documents at www.sgs.com/en/Terms-and-Conditions/Terms-Document. 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.



No.: CE/2012/14843A Date: 2012/02/04 Page: 22 of 24

**CERAMTEC GMBH** MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



### Analytical flow chart

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

[ Test Items: PBB/PBDE, TBBP-A-bis ]

First testing process -→ Optional screen process ······ Confirmation process ···· Sample Sample pretreatment Screen analysis Sample extraction method Concentrate/Dilute Extracted solution Filter Analysis by GC/MS Issue 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之樣品負責。本報色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-and-Conditions/Terms-e-Document. 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 faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



No.: CE/2012/14843A Date: 2012/02/04 Page: 23 of 24

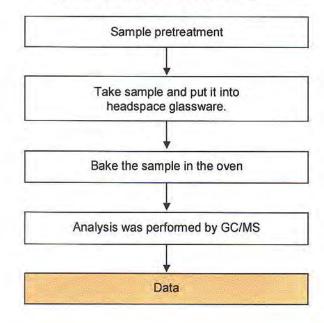
CERAMTEC GMBH MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



### Analytical flow chart of volatile organic compounds (VOCs)

- Name of the person who made measurement: Chun Wu
- Name of the person in charge of measurement : Shinjyh Chen

[Reference method : US EPA 5021]



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 除非另行說明,此報告結果僅對測試之樣品負責。本報告未經本公司書面許可,不可部分複製。 variable 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\_and-conditions/Terms-e-Document. 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.



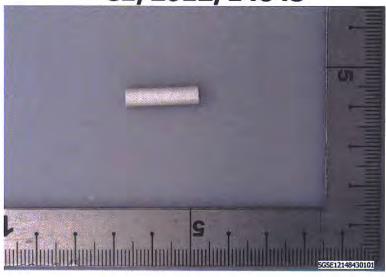
No.: CE/2012/14843A Date: 2012/02/04 Page: 24 of 24

**CERAMTEC GMBH** MULTIFUNCTIONAL CERAMICS LUITPOLDSTRASSE 15 D-91207 LAUF, GERMANY



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

CE/2012/14843



\*\* 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之樣品負責。本報告未經本公司書间許可,不可部分複製。 vailable on request or accessible at www.sgs.com/terms\_and\_conditions.htm and, for electronic format documents, subject to its General Conditions for Electronic Documents at www.sgs.com/en/Terms-and-Conditions/Terms-e-Document. 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.



No. SHAEC1219975401

Date: 19 Nov 2012

Page 1 of 7

**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. :

SP12-033081 - SH

Date of Sample Received :

14 Nov 2012

Testing Period:

14 Nov 2012 - 19 Nov 2012

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.

JJ Fan

Approved Signatory

This document is issued by the Compeny subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/herms\_and\_conditions\_ time and, for allest note format obcaments, audied to Tarms and Conditions for Electronic Documents at time, and, so contains the Allest note of the Service of Service of

> 3°Building,No.889 Yeihan Road Xuhui District,Shanghai China 200233 中国 - 上海、後汇区宜山路889号3号模 邮納: 200233

www.cn.sgs.com e sgs.chine@sgs.com

Member of the SGS Group (SGS SA)



Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 2 of 7

Test Results:

Test Part Description:

Specimen No. SGS Sample ID

Description

SHA12-199754.001 Brown 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)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	2	ND
Sum of PBBs	1000	mg/kg	3.	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	.2	mg/kg	5	ND
Tribromobiphenyl	9	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl		mg/kg	5	ND
Hexabromobiphenyl		mg/kg	5	ND
Heptabromobiphenyl		mg/kg	5	ND
Octabromobiphenyl		mg/kg	5	ND
Nonabromobiphenyl		mg/kg	5	ND
Decabromobiphenyl		mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	1.0	ND
Monobromodiphenyl ether	*	mg/kg	5	ND

This document is issued by the Company subject to its Operal Conditions of Service printed overleaf, available on request or accessible at http://www.gg.com/herms\_and\_conditions bins and for alcoholar termal documents, subject to Terms and Conditions for Electronic Documents at year age completing a document from the initiation of liability and the conditions of the conditions for Electronic Documents at year age completing a document from the conditions of the initiation of liability and the conditions of the

Service 3

3°Building No.889 Yishan Road Xuhui District Shanghai China 200233 中国 - 上海 - 徐江区宜山路689号3号陵 解稿: 200233 1EEE (86-21) 61402553 1EEE (86-21) 64653679 HL: (86-21) 61402564 HL: (86-21) 54600353

e eqs.chine@sqs.com

Member of the SGS Group (SGS SA)



Test Report	No. SHAEC1219975401		Date: 19	Nov 2012	Page 3 of 7
Test Item(s)	Limit	Unit	MDL	001	
Dibromodiphenyl ether		mg/kg	5	ND	
Tribromodiphenyl ether	9	mg/kg	5	ND	
Tetrabromodiphenyl ether	4	mg/kg	5	ND	
Pentabromodiphenyl ether	4	mg/kg	5	ND	
Hexabromodiphenyl ether	9.0	mg/kg	5	ND	
Heptabromodiphenyl ether	-	mg/kg	5	ND	
Octabromodiphenyl ether	9	mg/kg	5	ND	
Nonabromodiphenyl ether	4	mg/kg	5	ND	
Decabromodiphenyl ether	-	mg/kg	5	ND	

Notes:

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

### Hexabromocyclododecane (HBCDD)

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

Test Item(s)	Unit	MDL	001
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

### Notes:

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

#### **Phthalates**

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

Test Item(s)	Unit	MDL	001
Dibutyl Phthalate (DBP)	%	0.003	ND
Benzylbutyl Phthalate (BBP)	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	ND

Notes:

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

This document is issued by the Company subject to its General Conditions of Service printed overlant, available on request or accessible at http://www.gg.com/ferms and conditions. him and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/ferms a documents. Subject to Terms and Conditions are subject to Terms and Conditions and Terms of the Internation of Internation of the Internation of I

3 Building No.889 Yishen Road Xuhai District, Shanghail China 200233 中国·上海·徐汇区宜山路889号3号楼 邮稿: 200233 1FAF (86-21) 61402553 1 E&E (86-21)64953679 HL: (86-21) 61402594 HL: (56-21) 64500353 6 sgs.china@ags.com



Test Report

SGS

No. SHAEC1219975401

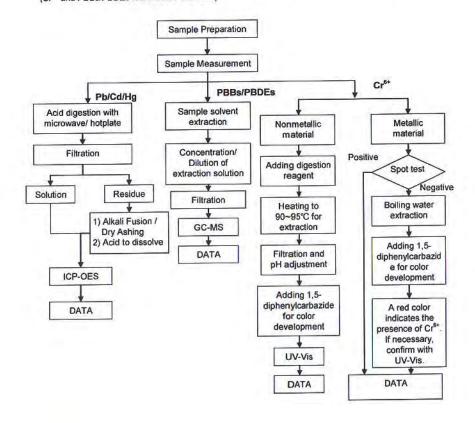
Date: 19 Nov 2012

Page 4 of 7

### **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/ Linda Li
- 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.gg.com/larms\_and\_conditions. Ithis and, for ejectronic format documents, subject to Terms and Conditions for Ejectronic Documents at <a href="https://www.ugg.com/larms\_and\_conditions.">www.ugg.com/larms\_and\_conditions.</a> the Service at the Se

3"Building Mo.889 Yehen Road Xuhui District, Shanghai China 200233 中間・上海・徐江区官山路889号3号楼 鄭錦: 200233 HL: (88-21) 61402594 HL: (86-21) 54500353

www.cn.sgs.com e sgs.chine@ags.com



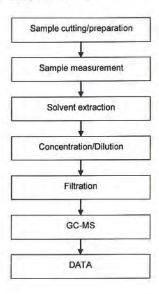
No. SHAEC1219975401

Date: 19 Nov 2012

Page 5 of 7

### **Phthalates Testing Flow Chart**

- 1) Name of the person who made testing: Elyn Yao
- 2) Name of the person in charge of testing: Rachel Zhang



This document is issued by the Company subject to its General Conditions of Service printed overloaf, available on request or accessible at http://www.egs.com/terms\_and\_conditions.htm and/or ejectronic format documents, subject to Terms and Conditions for Electronic Documents at www.egs.com/terms\_accessible\_at http://www.egs.com/terms\_and\_conditions.htm and/or ejectronic format documents, subject to Terms and Conditions for Electronic Documents at www.egs.com/terms\_accessible\_at htm.// Alternation is drawn to the limited in the control of t

17/3 (2, 11 | 3"Building No.889 Yehan Road Yuhui District, Shanghai China 200233 中国・上海・徐汇区宣山路889号3号楼 邮輪: 200233 HL: (86-21) 61402594 HL: (86-21)54500363 e sgs.chine@sgs.com

www.cn.sgs.com



Test Report

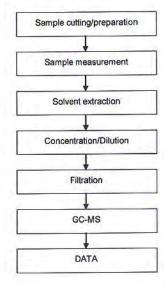
No. SHAEC1219975401

Date: 19 Nov 2012

Page 6 of 7

### **HBCDD Testing Flow Chart**

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



This document is issued by the Company subject to its General Conditions of Service printed everleaf, available on request or accessible at http://www.sgs.com/narms\_and\_conditions.

In any for electronic format documents, adolect to Terms and Conditions for Electronic Documents at www.sgs.com/narms\_e-bocument\_him\_Attention is drawn to the limitation of the limitation of the conditions are selected between the limitation of Client's Instructions. If any. The Conseary's sole responsibility is to its Client and this document does not exposed the limitation of the lim SGS

the Child | 3"Building, No.869 Yahan Road Kahul District, Shanghai China 200233 中國·上海·徐汇区宣山路889号3号楼 邮稿: 200233 HL: (86-21) 61402594 HL: (86-21)54500363 e sgs.china@sgs.com

www.cn.sgs.com

Member of the SGS Group (SGS SA)



No. SHAEC1219975401

Date: 19 Nov 2012

Page 7 of 7

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.gg.com/terms\_and\_conditions\_ htm\_and\_for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.gg.com/terms a-document him. Alterition is drawn to the limitation of subsidiary effects and printed close to the subsidiary effects and conditions for the limitation of the subsidiary effects and colleged within the fairly of Closer's Instructions. If any. The Company's believe prosentibility is to be fairly effects and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company, disputational attentions, longery or fairly instructional one of the content or appearance of this document is uniqueful and offenders may be procedured to the fullest extent of the law. SGS

> 200233 1E&E (86-21) 61402553 1E&E (86-21)64953679 中國・上海・徐汇区宣山路889号3号楼 邮箱: 200233

HL: (86-21) 61402594 HL: (86-21) 54500363 • sgs.chira@sgs.com

www.cn.sgs.com

Member of	the	SGS	Group	(SGS	SA
-----------	-----	-----	-------	------	----



No. SHAEC1219975401

Date: 19 Nov 2012

Page 1 of 6

**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. : SP12-033081 - SH

Date of Sample Received: 14 Nov 2012

14 Nov 2012 - 19 Nov 2012 Testing Period:

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

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

Signed for and on behalf of SGS-CSTC Ltd.

JJ Fan

Approved Signatory

This document is issued by the Company subject to its General Conditions of Service printed everteet, eveilable on request or accessible at http://www.sgc.com?ems\_and\_conditions to the final documents are supported to the conditions to the final documents are supported to the conditions to the final documents are supported to the conditions are supported to the final documents are supported to the conditions are supported to the final documents are su SGS

> 3" Building, No. 869 Yishen Road Xuhui Detrict, Shanghal Chine 200233 中国・上海・徐江区宣山唐889号3号楼 邮编: 200233

HL: (86-21) 61402594 HL: (86-21)54500353 8 sgs.china@sga.com

www.cn.sgs.com



Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 2 of 6

Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description

Brown solid

Remarks:

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

SHA12-199754.001

(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 (CI)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
lodine (I)	mg/kg	50	ND

This document is issued by the Company subject to its General Conditions of Service printed overloaf, evaluable on request or accessible at http://www.gg.com/harms\_end\_conditions bits and for electronic format documents, subject to Terms and Conditions for Electronic Documents at wow.gs\_com/harms\_end\_condition is drawn to the limitation of its lighting states. Some and justicition is leaves affect the end of the limitation of its lighting states. Some and justicition is leaves affect the end of the limitation of its lighting states. Some and justicition is leaves affect the end of the limitation of the limitation of the limitation of the company's sole responsibility is to late client and this document cannot be reproduced accept in full, without prior writing approval of the Company's sole responsibility is to late client and this document cannot be reproduced except in full, without prior writing approval of the Company's sole responsibility is to late client and this document cannot be reproduced except in full, without prior writing approval of the Company's unauthorized steen than the company of the limitation of the content or appearance of this document cannot be reproduced except in full, without a format and with the limitation of the content or appearance of this document cannot be reproduced accept in full, without a format and with the limitation of the content or appearance of this document is unleavely and effectively be interested to the full and the limitation of the content or appearance of this document is unleavely and effectively and ef SGS

100233 (2) 1 1 Building No.889 Yahan Roed Xahui District Shanghai China 200233 中國·上海·徐江区宮山路889号3号榜 邮箱: 200233 1E&E (86-21) 61402563 | E&E (86-21)64853679 HL: (86-21) 61402594 HL: (86-21) 54500353 \* egs.china@egs.com

www.cn.sos.com

Member of the SGS Group (SGS SA)

Member of the SGS Group (SGS SA)



No. SHAEC1219975401

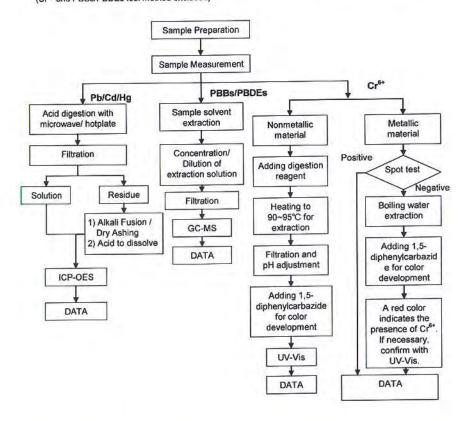
Date: 19 Nov 2012

Page 3 of 6

### **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/ Linda Li
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ and PBBs/PBDEs test method excluded)



riste (b. ) 1 5 Building No.889 Yeten Road Xuhui District, Shanghal China 200233 中國 - 上海 - 徐汇区宜山路889号3号被 邮票: 200233 HL: (86-21) 61402594 HL: (86-21)54500353 e spachine@ega.com

**Test Report** 

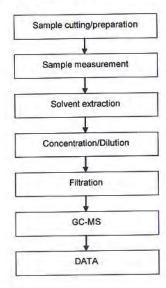
No. SHAEC1219975401

Date: 19 Nov 2012

Page 4 of 6

### **Phthalates Testing Flow Chart**

- 1) Name of the person who made testing: Elyn Yao
- 2) Name of the person in charge of testing: Rachel Zhang



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 that and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms\_e-document, Main, Altertion is drawn to the limitation of liability of the control of the service of the document is advised that information contained forecon reflects the Company's feedings at the time of the service of the service of the document is advised that information contained forecon reflects the Company's feedings at the time of the control of the cont SGS

1074 (o.) H | 3"Building, No.869 Yahan Road Xahai District, Shanghai China 200233. 中間・上海・徐汇区宝山路889号3号機 解除: 200233 1EAE (86-21) 61402553 1EAE (86-21)64953679 HL: (86-21) 61402594 HL: (86-21)54500353 e sgs.chine@sgs.com

www.cn.sos.com

Member of the SGS Group (SGS SA)



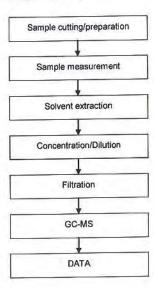
No. SHAEC1219975401

Date: 19 Nov 2012

Page 5 of 6

#### **HBCDD Testing Flow Chart**

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



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 bitm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms\_e-document.htm">www.sgs.com/terms\_e-document.htm</a>, Alterion is drawn to the limitation of sub-limitation of sub-limitation of the sub-limitation of the sub-limitation of confidence within the limits of client in the limits of client and this document cloes not exposted parties to a transaction for present of the comment cannot be reproduced except in full without prior emission approved of the Company for unauthorized altered and, represent on the control of the Company for unauthorized altered and represents on the control of the document is unlastful and offenders may be proceeded to the full determined the report refer only to the sample/e) tested. SGS

> roban Cr. M. | 3"Building No. 889 Yishan Road Xuhui District Shandhal China 200233 中国・上海・徐汇区宣山路889号3号禮 邮締: 200233

1E&E (86-21) 61402553 1E&E (86-21)64953679 HL: (86-21) 61402594 HL: (86-21)54500363 # sgs.china@ags.com

www.cn.sqs.com

**Test Report** 

No. SHAEC1219975401

Date: 19 Nov 2012

Page 6 of 6

Sample photo:



SGS authenticate the photo on original report only \*\*\* End of Report \*\*\*

This document is issued by the Company subject to its Operari Conditions of Service printed overleaf, available on request or accessible at http://www.gs.com/serms\_and\_conditions. International Company of the Company subject to Terms and Conditions of Electronic Documents at www.sps\_com/serms\_a-document\_beta\_Allandoon is drawn to the limitation of the Internation of the Company's accessible of the Company's Allandoon is drawn to the limitation of the Company's accessible of the Company's Allandoon is drawn to the limitation of the Company's accessibility in the Company's accessibil SGS

> 1 3"Building, No. 869 Yishan Road Xuhul District, Shanghai China 200233 中国・上海・徐汇区宜山路889号3号楼 邮線: 200233

1 E&E (86-21) 61402550 1 E&E (86-21) 64953679 HL: (86-21) 61402594 HL: (86-21) 54500353 e sgs.chine@egs.com

www.ch.sgs.com

Member of the SGS Group (SGS SA)

Member of the SGS Group (SGS SA)



Please Contact with SGS www.tw.sgs.com

**Test Report** 

No.: CE/2011/B4956

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

: Ni42Fe58MCuMSn

Buyer/Order No.

: 10-1185

Sample Receiving Date

: 2011/11/25

Testing Period

: 2011/11/25 TO 2011/12/01

\_\_\_\_\_

Test Result(s)

Please refer to next page(s).



Unless of therwise 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, 除期分行效则,此很否约则相同的统计方式。不可能的模型。

Company, 除非只有规则,更很作品的保护后分子下程,未被本公司。而为可,不可能的模型。 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 Inis document is issued by the Company subject to its General Conditions or Service printed overlear, available on request or accessible at www.sgs.com/rerms\_and\_conditions for felectronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/rerms\_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 experience 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.



No.: CE/2011/B4956

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 (INCLUDING THE PLATING LAYER)

Test Item(s)	Unit	Method	MDL	Result
Cadmium (Cd)	man/lea	With the second second	72.675	No.1
	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	62
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			4	n.d.
Monob <mark>r</mark> omobiphenyl			5	n.d.
Dibrom <mark>obiphenyl</mark>			5	n.d.
Tribromobiphenyl		With reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.
Tetrabr <mark>omobiphenyl</mark>			5	n.d.
Pentab <mark>r</mark> omobiphenyl	=		5	n.d.
Hexabr <mark>omobiphenyl</mark>			5	n.d.
Heptab <mark>r</mark> omobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabr <mark>omobiphenyl</mark>			5	n.d.
Decabr <mark>omobiphenyl</mark>			5	n.d.
Sum of PBDEs	mg/kg			n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabr <mark>omodiphenyl ether</mark>			5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether		1	5	n.d.
Heptab <mark>r</mark> omodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether			5	n.d.
Decabromodiphenyl ether			5	n.d.

台灣後繼年收數化有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北市丘反。業里五種鄉×病(+886 (02)2299 3279 (+886 (02)2299 3237 www.sgs.com



No.: CE/2011/B4956

Date: 2011/12/01

Page: 3 of 7

POLYFIL AG OBER<mark>ALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND</mark>

	Test Item(s)	Unit	Method	MDL	Result
Halogen				No.1	
	n-Fluorine (F)			-15-11	
	o.: 14762-94-8)		With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
	-Chlorine (CI)			50	n.d.
(CAS N	o.: 22537-15-1)				
	n-Bromine (Br) o.; 10097-32-2)	mg/kg		50	n.d.
	n-lodine (I) o.: 14362-44-8)			50	n.d.

- 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 cm<sup>2</sup>

7. The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) 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 施力的主义的,此智、新来所有的文明的一个本程,未经本的工作的文明。 1990 例如。
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 for Electronic Documents at www.sgs.com/terms\_e-document.htm. Attention is drawn to the limitation of flability, tor electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/ferms\_e-document.ntm. Attention is drawn to the limitation or 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 exceed 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.

台灣檢驗科技股份有限公司 Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 你出 百江县主案皇五權路 1 成 + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



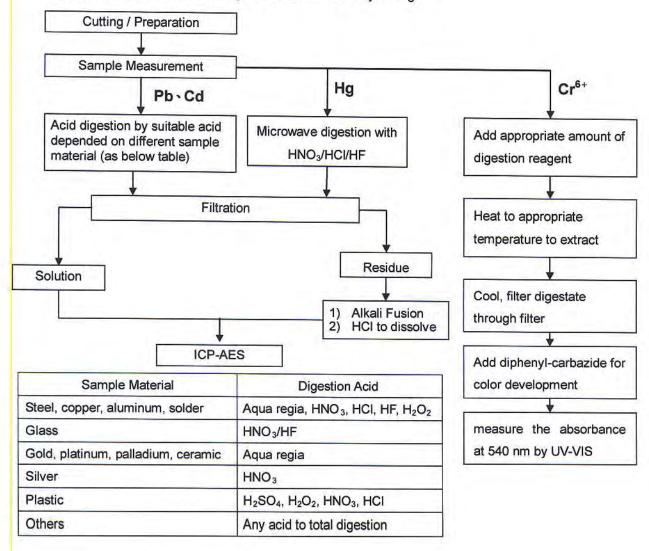
No.: CE/2011/B4956

Date: 2011/12/01

Page: 4 of 7

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

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



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 编非另有文列,此程介需要保证的操队自由。本程与未经本公司的调查可,不可能投权投资。

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.

台灣檢驗計支援仍有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北山五股上美国五幅路回线+886 (02)2299 3279 f + 886 (02)2299 3279 www.sgs.com



No.: CE/2011/B4956

Date: 2011/12/01

Page: 5 of 7

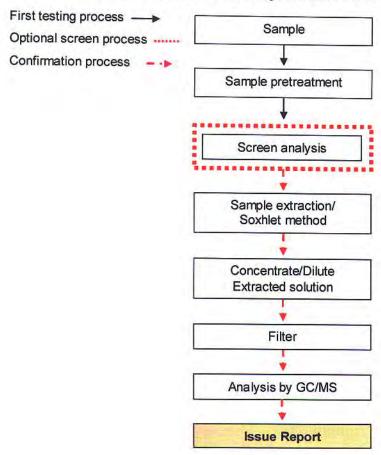
POLYFIL AG

OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND



### PBB/PBDE analytical FLOW CHART

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



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

台灣快遊客#後度份(1)聚公司 Chemical-Taipei 33 WuChyuan Road, Wuku industrial Zone, New Taipei City, Taiwan / 新北市五股工業三五檔路中就 + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



No.: CE/2011/B4956

Date: 2011/12/01

Page: 6 of 7

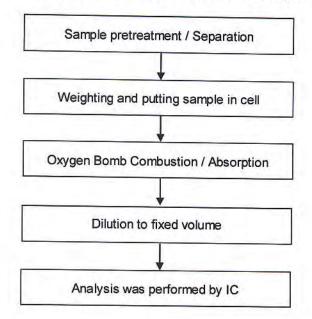
POLYFIL AG

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



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.



No.: CE/2011/B4956

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/B4956



\*\* 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. 减进分行进列,此限行款限价数据设备合作,本限气系基本公司的原则,不可能的效果。 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

子海檢驗子接股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan /新北市五股上業區五橋鈴豆就+886 (02)2299 3279 1+886 (02)2299 3237 www.sgs.com



Validity unknown
For Question
Please Contact with SGS
www.tw.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).



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. 解理的信息中,是限制的数据中,但是一个可能的数据中。
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.

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.



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
rest item(s)	Unit	Metriou	MDL	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			-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrab <mark>romobiphenyl</mark>		With reference to IEC 62321: 2008 and performed by GC/MS.	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	mg/kg		G G	n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether		1	5	n.d.
Pentabromodiphenyl ether		1	5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether			5	n.d.
Decapromodiphenyl ether	T		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, 除进行任业中,此代"是中国共通的文"。 下下 电影,其代本公司,而是中,不可多的政策。

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\_e-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 Clients instructions, if any. The Company's sole responsibility is to its Client and this document does not experience 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.

有觸線號科技級份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新走事主是報路中走 + 886 (02)2299 3279 (+ 886 (02)2299 3237 www.sgs.com



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
Halogen				No.1
Halogen-Fluorine (F) (CAS No.: 14762-94-8)		With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
Halog <mark>e</mark> n-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 cm<sup>2</sup> 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

Onless briefwase stated the results shown in this test report earlier only to the samplest result was report carried to explosive except in such and print which 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 faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



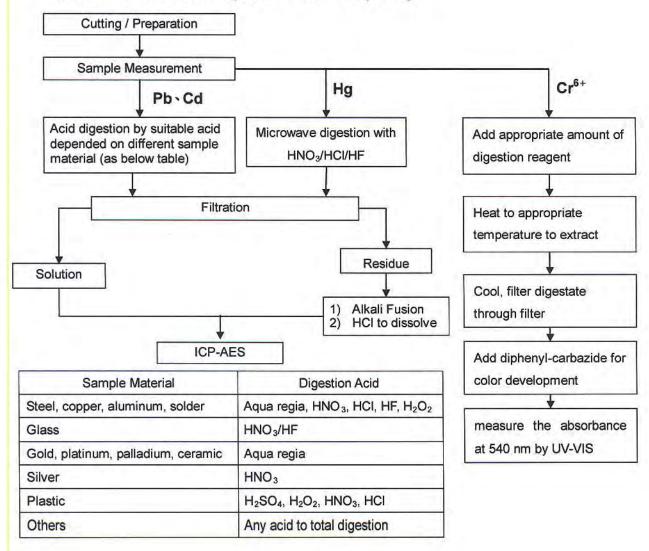
No.: CE/2011/B4958

Date: 2011/12/01

Page: 4 of 7

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

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



This document is issued by the Company subject to its General Conditions of Seruce printed overleaf, available on request or accessible at www.sgs.com/rerms\_and\_conditions fill find for electronic Documents at www.sgs.com/rerms\_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 unauthonized 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.

大海域域第二线股份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 机比重互数主义工作的 成 + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



No.: CE/2011/B4958

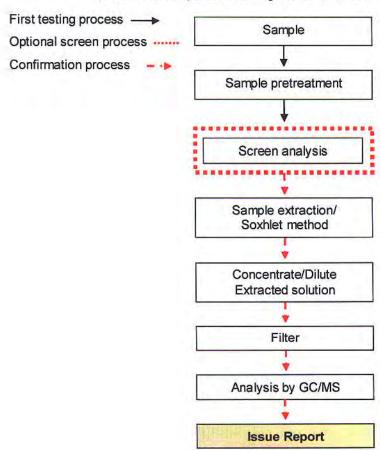
Date: 2011/12/01

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



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

台灣樹藤科技版份有限公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 所北市五股 主義呈五確整 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



No.: CE/2011/B4958

Date: 2011/12/01

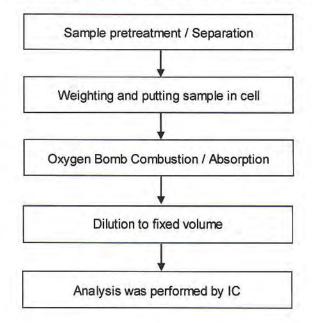
Page: 6 of 7

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. 第五十八章 计 电报告系统 第二十二章 本报 "未完全会证,例前一章 十二章 大学的表现。"
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 of falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



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 \*\*

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 excharate 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

有觸接線([接改传/[現代元] Chemical-Taipei 33 WuChyuan Road, Wuku industrial Zone, New Taipei City, Taiwan / 作北市五股工業产五楼遊×減+886 (02)2299 3279 (+886 (02)2299 3277 www.sgs.com



號碼(No.): CE/2012/10835 日期(Date): 2012/01/11 頁數(Page): 1 of 10

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

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

樣品名稱(Sample Description)

: SILVER PLATED & PURE SILVER 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)

: 2012/01/04

測試期間(Testing Period)

: 2012/01/04 TO 2012/01/11

測試結果(Test Results)

: 請見下一頁 (Please refer to next pages).



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 除到 24.100元,此代为现代的

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 excert experted to the timits of Client's instructions. This documents are 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

表實際數字技能仍有是公司 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 紅上 有五度二葉黑工植器 5元末 + 886 (02)2299 3279 【+ 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁数(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6款) (MIXED ALL COLOR METAL WIRE (INCLUDING THE PLATING LAYER) (6 TYPES))

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
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	参考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	参考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.
六價絡 / 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	参考US EPA 3540C: 1996方法,以液相層析質譜儀檢測全氯辛烷磺酸含量./ 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	参考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.

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 him and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms\_e-document him. 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 solid responsibility is to its Client and this document does not experience 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

手触物線上表際信仰部分。 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 61 上,由上校一指生工程路上,第4 又在 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁数(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 極限値 (MDL)	結果 (Result) No.1
多溴聯苯總和 / Sum of PBBs			-	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.
へ溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl		参考IEC 62321: 2008方法, 以氣相層	5	n.d.
十溴聯苯 / Decabromobiphenyl		析儀/質譜儀檢測. / With reference	5	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	to IEC 62321: 2008 and performed		n.d.
一溴聯苯醚 / Monobromodiphenyl ether		by GC/MS.	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.
へ溴聯苯醚 / 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 (氣) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)		参考BS EN 14582:2007, 以離子層析 儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素 (氣) / Halogen-Chlorine (C1) (CAS No.: 22537-15-1)			50	n.d.
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
鹵素(碘)/ Halogen-Iodine (I) (CAS No.: 14362-44-8)			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, 除足工作以上,是一个可能的现在。

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

子爾特麗什麼業份有數分。1 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 炸走由五股上業 三五權終5項 + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁数(Page): 4 of 10

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

THE RESIDENCE OF THE PERSON OF

#### 備註(Note):

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

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

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别單一材質的含量. (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.)

### PFOS参考資訊(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1µg/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 1µg/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 \$20.000, \$2.0

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.

一種機能主要要条件設立。 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新北 日本政 業主工業所の大き、486 (02)2299 3279 / + 886 (02)2299 3237 www.sqs.com



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁数(Page): 5 of 10

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



樣品型號(Style/Item No.)

(B-1) 101. 014 - . - - - - - silver plated copper wire-Cu, Ag - - %

(B-2) 101. 0131. - - - - - pure silver wire-Ag 1000

(B-3) 101.0123.0 - - - - silver plated purest nickel wire-Ni99.98%, Ag1%

(B-4) 101.0182.0 - - - - silver-copper alloy plated copper clad wire-Elcon D, AgCu5%

(B-5) 101.0120.0 - - - - silver plated constantan wire-CuNi44, Ag5%

(B-6) 101.0151.0 - - - - copper - nickel 44 alloy silver plated wire-CuNi44, Ag10%

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

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 expected 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

子傳榜號[[接聽6]行[[於5]] | Chemical Taiper 33 WuChyuan Road, Wuku Industrial Zone, New Taiper City, Taiwan / 統主 正五數主案金工機能 中主 886 (02)2299 3279 1 + 886 (02)2299 3237 www.sgs.com



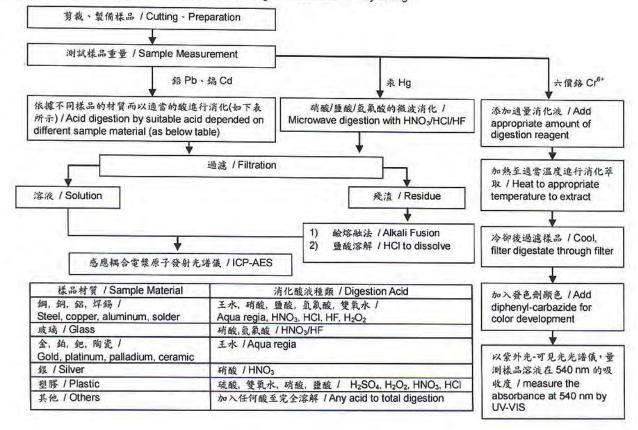
號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁数(Page): 6 of 10

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

- 根據以下的流程圖之條件,樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>8+</sup> test method excluded)
- 2) 测试人员:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 测試負責人: 張啓典 / 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 IRLE TO SELECT A S

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

于海峽線上坡根均有限公司 Chemical-Taiper 33 WuChyuan Road, Wuku Industrial Zone, New Taiper City, Taiwan / 新七 计行数,严重扩射的10.12299 3279 扩 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁數(Page): 7 of 10

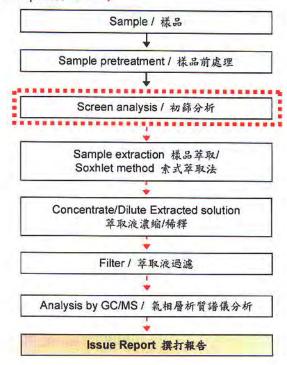
ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



#### 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

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. 第五元(为月·周代本法集的目标,对于

Company and Jan 2011 Lant Market Hands the Translation 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.



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

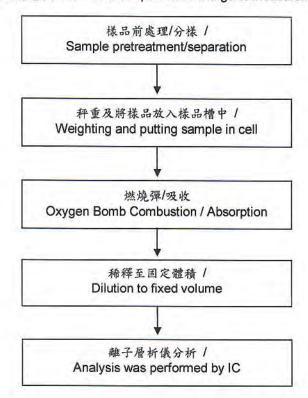
頁數(Page): 8 of 10

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



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\_e-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 is 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 excine 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.



號碼(No.): CE/2012/10835

日期(Date): 2012/01/11

頁数(Page): 9 of 10

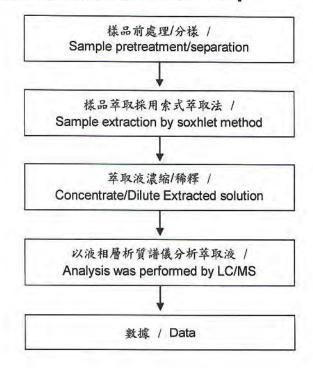
ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



#### 索式萃取分析流程圖 / Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 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

【測試項目:全氟辛烷磺酸/全氟辛酸(銨)、苯並三唑類化合物 / Test Items: PFOS/PFOA、Benzotriazole】



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. 影演写在中的,他里看到这种意识的意识。

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 junsdiction 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 is sold 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.



號碼(No.): CE/2012/10835 日期(Date): 2012/01/11 頁數(Page): 10 of 10

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



\* 照片中如有箭頭標示,則表示爲實際檢測之樣品/部位. \*

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

CE/2012/10835



CE/2012/10835



\*\* 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. 除非只有这对,此报告来又解了那么的条件看点,本报告未经本公司。

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 of Service printed overleaf, available on request or accessible 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

行海路域计算数据分。Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新港市工程工業 2 化溶液 5 元 86 (02)2299 3279 [+886 (02)2299 3237 www.sgs.com



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户送樣,且由客户聲稱並經客户確認如下 (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).



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. 新港 (有主义) 建化合物 医动脉

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 is 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.

台灣院第千尺度(1) Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 走上市直接,第二五毫裕,第4 886 (02)2299 3279 「+ 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10834 日期(Date): 2012/01/12 頁数(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 極限値 (MDL)	結果 (Result) No.1
鍋 / 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	参考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)	**	冬考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	参考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 Applied (201) - IS THE CHARLES AND A FEW AND A SECOND TO A SECOND 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

参議権議行を登む合作書学。 | Chemical-Taipe: 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 総制 日本文学 美土土標幹 生ま 486 (02) 2299 3279 f + 886 (02) 2299 329 f + 886 (02) 229 f + 8



號碼(No.): CE/2012/10834

日期(Date): 2012/01/12

頁数(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 極限値 (MDL)	結果 (Result) No.1
多溴聯苯總和 / Sum of PBBs			1.0	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.
入溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl		参考IEC 62321: 2008方法, 以氣相層	5	n.d.
十溴聯苯 / Decabromobiphenyl	mg/kg	析儀/質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg			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.
入溴聯苯醚 / 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)		参考BS EN 14582:2007, 以離子層析 儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素(氯)/ Halogen-Chlorine (C1) (CAS No.: 22537-15-1)	mg/kg		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

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

台灣的語音目表現在主要的。 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 紀上 工程主要工作的中主,1886 (02)2299 3279 f + 886 (02)2299 3277 www.sgs.com



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≧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别單一材質的含量. (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1μg/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 1μg/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 能能另行地形,此间,这种对视域的最近几十年间,不可能的权益。

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 is 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.

計画機能計画を受けませた。」 Chemical-Taiper 33 WuChyuan Road, Wuku Industrial Zone, New Taiper City, Taiwan / およりします 第二人 配送 かっぱ + 886 (02)2299 3279 『 + 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10834 日期(Da

日期(Date): 2012/01/12

頁數(Page): 5 of 10

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



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, 我想见我的意思,我们就是我们的意思,我们就是我们的意思。

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 junisdiction 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 Clients 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.



號碼(No.): CE/2012/10834

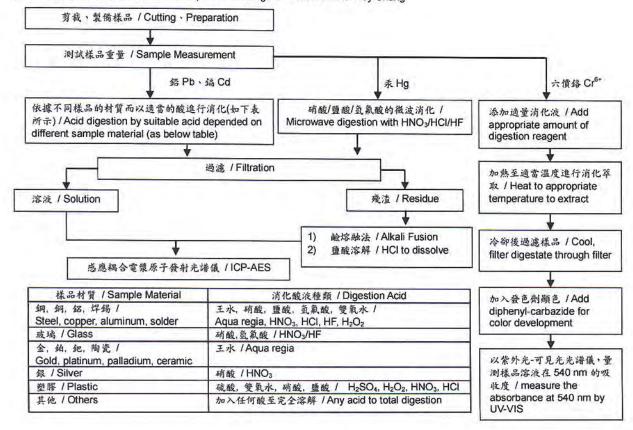
日期(Date): 2012/01/12

頁数(Page): 6 of 10

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



- 根據以下的流程圖之條件,樣品已完全溶解。(六價絡測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>5+</sup> test method excluded)
- 2) 测试人員:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 测试负责人: 張啓興 / Name of the person in charge of measurement: Troy Chang



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 ntm 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.



號碼(No.): CE/2012/10834

日期(Date): 2012/01/12

頁数(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 ———

Sample / 樣品

Sample pretreatment / 樣品前處理

Screen analysis / 初篩分析

Sample extraction 樣品萃取/
Soxhlet method 索式萃取法

Concentrate/Dilute Extracted solution
萃取液濃縮/稀釋

Filter / 萃取液過滤

Analysis by GC/MS / 氣相層析質譜儀分析

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 海点型 (1) 用于 医内侧 医原子宫 (1) 计算量 (1) 计算量

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.ntm 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

作數據音級的存在的 Chemical-Taiper 33 WuChyuan Road, Wuku Indistrial Zone, New Taiper City, Taiwan / 新北 日子成本 紫生上传统 + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10834

日期(Date): 2012/01/12

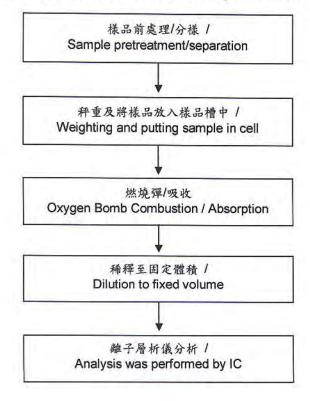
頁數(Page): 8 of 10

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, 2000-00 (1) to the ACM Section 10 (1) to the ACM S

Company 30-30-30 (1) 10-30-30 (1) 10-30-30 (1) 10-30 (1)

台灣極級的技能の有限公司 Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 走上市 頂鷺 上发生五烯酸 "成本 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



號碼(No.): CE/2012/10834

日期(Date): 2012/01/12

頁數(Page): 9 of 10

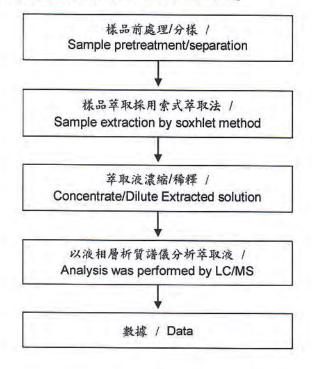
ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



#### 索式萃取分析流程圖 / Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 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

【測試項目: 全氟辛烷磺酸/全氟辛酸(銨)、苯並三唑類化合物 / Test Items: PFOS/PFOA · Benzotriazole ]



Company is an accessible at www.sgs.com/terms\_and\_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 its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms\_e-document.htm. Attention is drawn to the limitation of liability, indemnification and junsdiction 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 experience 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, force the finding of the content of the company is indexing any that operating the limit of the limits of the limits. 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.

台灣保險主要表現在有限分寸 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 新港中央主任機能中央主任



號碼(No.): CE/2012/10834

日期(Date): 2012/01/12 頁數(Page): 10 of 10

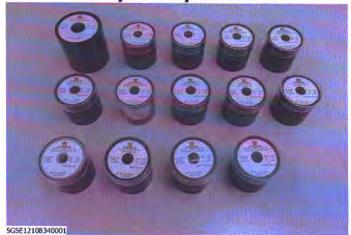
ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



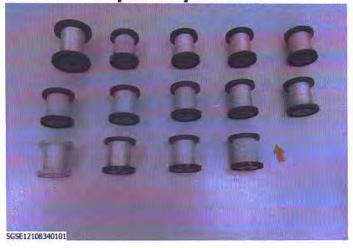
\* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. \*

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

CE/2012/10834



CE/2012/10834



\*\* 報告結尾(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 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 and and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not experience 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.

台灣極級主政政府 [1] Chemical Taipei 33 WuChyuan Road, Wuku Industrial Zone, New Taipei City, Taiwan / 机比由压胶 计第三直接路 / 成 + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com



No. SHAEC1216714738

Date: 25 Sep 2012

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. : SP12-028285 - SH

Part No. (P/N): YTW206

Composition : Sn0.3Ag0.7CuCe

Date of Sample Received : 21 Sep 2012

Testing Period : 21 Sep 2012 - 25 Sep 2012

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

his 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\_conditiona.

Image: an another than the content of the content

3°Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 中國 - 上海 - 徐汇区宜山路889号3号楼 邮编: 200233 www.cn.sgs.com e sgs.china@sgs.com



**Test Report** 

No. SHAEC1216714738

Date: 25 Sep 2012

Page 2 of 5

Test Results:

### Test Part Description:

Specimen No. SGS Sample ID Description
1 SHA12-167147.035 Silvery 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)	<u>Limit</u>	<u>Unit</u>	MDL	<u>035</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	50
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))			$\Diamond$	Negative
Sum of PBBs	1000	mg/kg	B.	ND
Monobromobiphenyl	9	mg/kg	5	ND
Dibromobiphenyl	4	mg/kg	5	ND
Tribromobiphenyl	4	mg/kg	5	ND
Tetrabromobiphenyl	0-1	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl		mg/kg	5	ND
Heptabromobiphenyl	2.1	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	191	mg/kg	5	ND
Sum of PBDEs	1000	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\_end\_conditions.

It is and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability integrants and condition leaves defined therein. Any holder of this document is advised that Information contained hereon reflects the Company's finishings at the time of liability integrants within the limits of Client's Instructions, if any. The Company's sole responsibility is to its Client and this document does not exponent to a transaction its integration of the company in the company of the Company is all the company in the company in the company of the company is a subject to the full of the company of the company of the company is contained at the company of the company

rotal (a. ii 3°Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 中國 - 上海 · 徐江区宜山路889号3号楼 邮鎖: 200233 www.cn.sgs.com e sgs.chine@sgs.com



Test Report	No. SHAEC12167147	38	Date: 25	Sep 2012	Page 3 of 5
Test Item(s)	<u>Limit</u>	<u>Unit</u>	MDL	<u>035</u>	
Dibromodiphenyl ether	1.4	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	4	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 Cr(VI) coating, Positive = Presence of Cr(VI) 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 Cr(VI) coating

Positive = Presence of Cr(VI) 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 <a href="www.sgs.com/terms\_e-document.htm">www.sgs.com/terms\_e-document.htm</a>. Attention is drawn to the limitation of liability to the subject of the subje

3°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



# **Test Report**

No. SHAEC1216714738

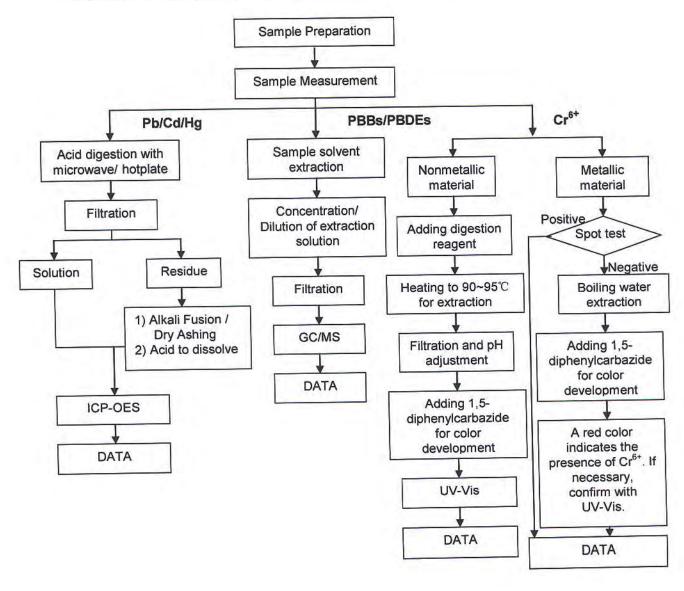
Date: 25 Sep 2012

Page 4 of 5

# **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/ Linda Li
- These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> 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 <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability of the formation contained hereon reflects the Company's findings at the time of liability of the formation contained hereon reflects the Company's findings at the time of its interest in 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 for provided in the limits of Client's Instructions, if any. The Company is ole responsibility is to its Client and this document does not exonerate parties to a transaction for provided in the limits of Client's Instructions, if any. The Company is ole responsibility is to its Client and this document does not exonerate parties to a transaction for provided in the limits of Client's Instructions, if any is one responsibility is to its Client and this document does not exonerate parties to a transaction for provided except in full, without prior written approval of the Company. If the limits of Client's Instructions, if any is one provided except in full, without prior written approval of the Company. If the limits of Client's Instructions, if any is one provided except in full, without prior written approval of the Company. If the limits of the Company is one provided except in full, without prior written approval of the Company. If the limits of the content of th

Sympha) Ca.Lift 3"Building, No.889 Yishan Road Xuhui District, Shanghai China 200233 中国・上海・徐江区宣山路889号3号楼 邮编: 200233 www.cn.sgs.com e sgs.china@sgs.com



# **Test Report**

No. SHAEC1216714738

Date: 25 Sep 2012

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 <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability in a condition is used that information contained hereon reflects the Company's findings at the time of its instructions, if any. The Company's sole responsibility is to its Client and this document does not expense to a transaction its is contained in the contained of the company of the company of the company of the company. This document cannot be reproduced except in full, without prior written approval of the Company, are unauthorized atternation, 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.

The second of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

3"Building,No.889 Yishan Roed Xuhui District,Shanghal China 200233 中国・上海・徐江区宜山路889号3号楼 邮編: 200233 www.cn.sgs.com e sgs.china@sgs.com



Test Report No. CANEC1208305601 Date: 02 Jul 2012 Page 1 of 5

AIM SOLDER (SHEN ZHEN) CO.,LTD.

BLOCK 69,THIRD INDUSTRIAL ZONE,LUOTIAN VILLAGE,SONGGANG TOWN,BAOAN DISTRICT,SZ CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as: SOLDER WIRE AIM230 FAST CORE H RSA605

SGS Job No.: CP12-030363 - SZ

Date of Sample Received: 26 Jun 2012

Testing Period: 26 Jun 2012 - 02 Jul 2012

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.

Kenny Wang Approved Signatory



**Test Report** 

No. CANEC1208305601

Date: 02 Jul 2012

Page 2 of 5

Test Results:

#### Test Part Description:

Specimen No. SGS Sample ID Description

1 CAN12-083056.001 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	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	78
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	-	· ·	$\Diamond$	Negative
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl		mg/kg	5	ND
Dibromobiphenyl		mg/kg	5	ND
Tribromobiphenyl	1.5	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl		mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	2	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	2	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	1.40	ND
Monobromodiphenyl ether	9	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 are minus, tion 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 is translation of the advised that information contained hereon reflects the Company's findings at the time of its is translation of the document does not exonerate parties to a transaction its is translation of the advised that information contained hereon reflects the Company is findings. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from the propriet of the produced except in full, without prior written approval of the Company. In the produced except in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the produced accept in full, without prior written approval of the Company. In the prior written approval of the Company. I



Test Report	No. CANEC12083056	01	Date: 02	Jul 2012	Page 3 of 5
Test Item(s)	Limit	<u>Unit</u>	MDL	001	
Dibromodiphenyl ether		mg/kg	5	ND	
Tribromodiphenyl ether	1.4	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	4	mg/kg	5	ND	
Decabromodiphenyl ether	-	mg/kg	5	ND	

#### Notes:

(1) The maximum permissible limit is quoted from the directive 2011/65/EU, Annex II (2) Spot-test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)

◇Boiling-water-extraction:

Negative = Absence of CrVI coating

Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm2 sample surface area.

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.

In another electronic format document, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms\_e-document.htm">www.sgs.com/terms\_e-document.htm</a>. Attention is drawn to the limitation of himself and the state of the state of



# **Test Report**

No. CANEC1208305601

Date: 02 Jul 2012

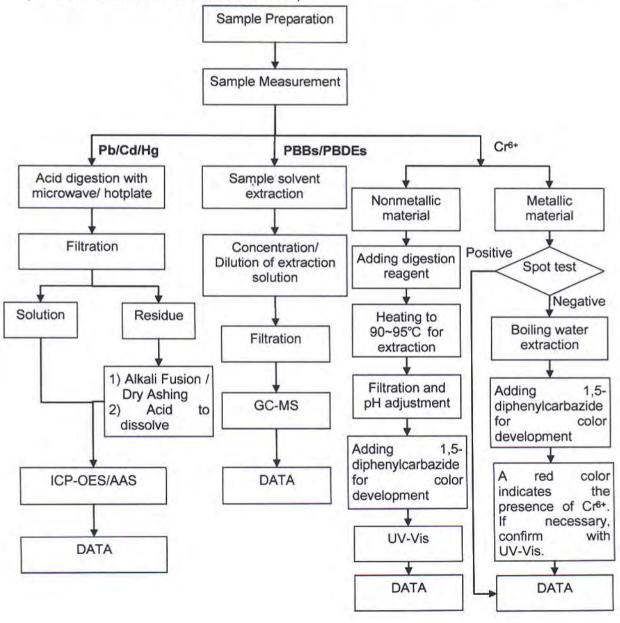
Page 4 of 5

www.cn.sgs.com

# **ATTACHMENTS**

# **RoHS Testing Flow Chart**

- 1) Name of the person who made testing: Bella Wang / Cutey Yu
- 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 (Cr<sup>6+</sup> 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.

In 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\_each. The company is continued by the company is findings\_at the time of list of continued by the company is findings\_at the time of list of company is the company is continued by the company is the company is to its Client and this document does not axonerate parties to a transaction for axis of company is continued at the company in the company is continued at the company of the company is continued at the company of the company



**Test Report** 

No. CANEC1208305601

Date: 02 Jul 2012

Page 5 of 5

Sample photo:



SGS authenticate the photo on original report only

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



APPLICANT: LITTELFUSE, INC. DATE: DEC 13, 2012

800 E. NORTHWEST HWY ΑT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE WHITE POWDER.

ITEM NAME FILLER. PART NO. 090187.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

# (I) Test Result Summary:

TESTING ITEM R	ESULT (ppm)
HEAVY METAL	
CADMIUM (Cd) CONTENT	ND
LEAD (Pb) CONTENT	ND
MERCURY (Hg) CONTENT	ND
CHROMIUM VI (Cr6+) 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

NUMBER: SH AH00355828

ppm = PARTS PER MILLION = mg/kg **REMARKS:** 

ND = NOT DETECTED

#### (II) ROHS REQUIREMENT:

(II) NOTO REGUIRENT:	
RESTRICTED SUBSTANCES LIM	ITS
CADMIUM (Cd) CONTENT	0.01% (100ppm)
LEAD (Pb) CONTENT	0.1% (1000ppm)
MERCURY (Hg) CONTENT	0.1% (1000ppm)
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	0.1% (1000ppm)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000ppm)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000ppm)

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



**TESTS CONDUCTED** 

# (I) Test Result Summary:

TESTING ITEM R	ESULT (ppm)
HALOGEN CONTENT	
FLUORINE (F)	ND
CHLORINE (CI)	ND
BROMINE (Br)	ND
IODINE (I)	ND

NUMBER: SH

AH00355828

ppm = PARTS PER MILLION = mg/kg **REMARKS:** 

ND = NOT DETECTED

(III) TEST METHOD:

TESTING ITEM T	ESTING METHOD	REPORTING LIMIT
IHAI ()(=EN ( C)NITENT	WITH REFERENCE TO EN 14582:2007 BY COMBUSTION FLASK WITH OXYGEN AND DETERMINED BY ION CHROMATOGRAPHY	50 ppm



# **TESTS CONDUCTED**

(III) TEST METHOD:

(m) reor merrios.		
TESTING ITEM T	ESTING METHOD	REPORTING LIMIT
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 <sup>6+</sup> ) 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

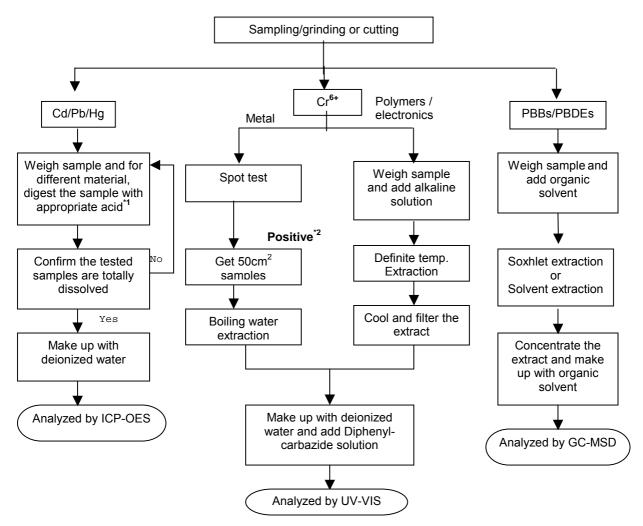
REMARK: REPORTING LIMIT = QUANTITATION LIMIT OF ANALYZE IN SAMPLE



#### **TESTS CONDUCTED**

(IV) MEASUREMENT FLOWCHART:

TEST FOR Cd/ Pb/ Hg/Cr (VI)/ PBBS/PBDES CONTENTS REFERENCE STANDARD: IÉC 62321 EDITION 1.0:2008



#### **REMARKS:**

\*1: LIST OF APPROPRIATE ACID:

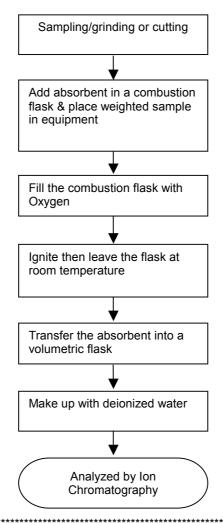
MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS HNO	<sub>3,</sub> HCL,HF,H <sub>2</sub> O <sub>2,</sub> H <sub>3</sub> BO <sub>3</sub>
METALS HNO	<sub>3,</sub> HCL,HF
ELECTRONICS HNO	3,HCL,H <sub>2</sub> O <sub>2</sub> ,HBF <sub>4</sub>

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



**TESTS CONDUCTED** 

(V) MEASUREMENT FLOWCHART: TEST FOR HALOGEN CONTENT REFERENCE STANDARD: EN 14582



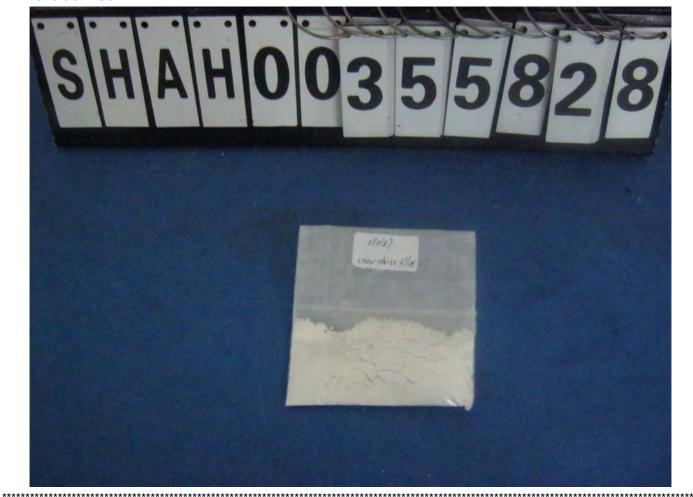
NUMBER: SH

AH00355828



**TESTS CONDUCTED** 

NUMBER: SH AH00355828



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



APPLICANT: LITTELFUSE, INC. DATE: DEC 13, 2012

800 E. NORTHWEST HWY ΑT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE(1) SUBMITTED SAMPLE SAID TO BE BEIGE POWDER.

ITEM NAME FILLER. PART NO. 090184.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



### **TESTS CONDUCTED**

#### 1 ( I) Test Result Summary:

TESTING ITEM R	ESULT (ppm)
HEAVY METAL	
CADMIUM (Cd) CONTENT	ND
LEAD (Pb) CONTENT	ND
MERCURY (Hg) CONTENT	ND
CHROMIUM VI (Cr <sup>6+</sup> ) 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 / LEAF LIU

# (II) ROHS REQUIREMENT:

RESTRICTED SUBSTANCES LIM	ITS
CADMIUM (Cd) CONTENT	0.01% (100ppm)
LEAD (Pb) CONTENT	0.1% (1000ppm)
MERCURY (Hg) CONTENT	0.1% (1000ppm)
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	0.1% (1000ppm)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000ppm)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000ppm)

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



# **TESTS CONDUCTED**

(III) TEST METHOD:

(III) ILOI WEITIOD.		
TESTING ITEM T	ESTING METHOD	REPORTING LIMIT
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 <sup>6+</sup> ) 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

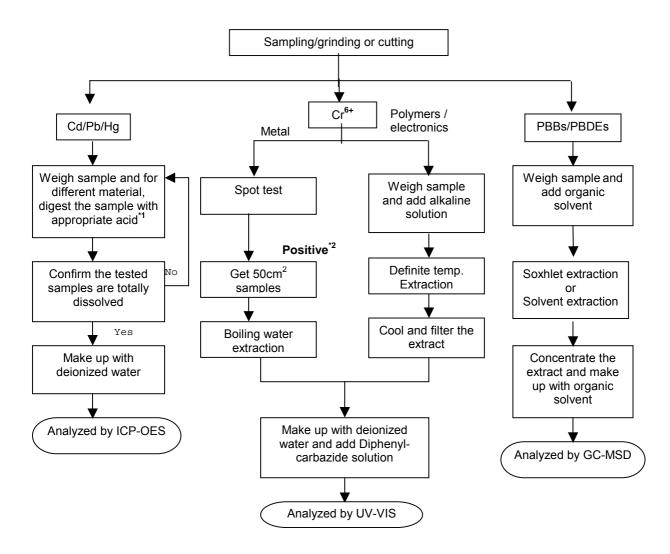
REMARK: REPORTING LIMIT = QUANTITATION LIMIT OF ANALYZE IN SAMPLE



#### **TESTS CONDUCTED**

(IV) MEASUREMENT FLOWCHART:

TEST FOR Cd/ Pb/ Hg/Cr (VI)/ PBBS/PBDES CONTENTS REFERENCE STANDARD: IEC 62321 EDITION 1.0:2008



#### **REMARKS:**

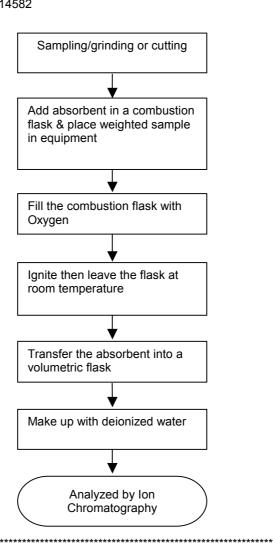
\*1: LIST OF APPROPRIATE ACID:

MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS HNO	<sub>3,</sub> HCL,HF,H <sub>2</sub> O <sub>2,</sub> H <sub>3</sub> BO <sub>3</sub>
METALS HNO	<sub>3,</sub> HCL,HF
ELECTRONICS HNO	3,HCL,H <sub>2</sub> O <sub>2</sub> ,HBF <sub>4</sub>

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



**TESTS CONDUCTED** (  $\boldsymbol{V}$  ) MEASUREMENT FLOWCHART: TEST FOR HALOGEN CONTENT REFERENCE STANDARD: EN 14582



NUMBER: SH

AH00355836



### **TESTS CONDUCTED**

2 (I) Test Result Summary:

	Testing Item	Result (ppm)
Halogen Content		
Fluorine (F)		ND
Chlorine (CI)		100
Bromine (Br)		ND
lodine (I)		ND

ppm = Parts per million = mg/kg Remarks:

Not detected

Responsibility Of Chemist : Grace Wang

### (III) Test Method:

Testing Item T	esting Method R	eporting Limit
inalonen 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

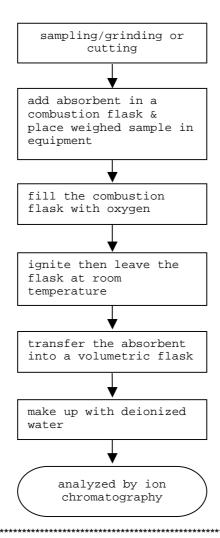
Date Sample Received : Dec.5, 2012

**Testing Period** : Dec.5, 2012 To Dec.11, 2012



**TESTS CONDUCTED** (  $\!\operatorname{IV}\!$  ) Measurement Flowchart:

> Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00355836



NUMBER: SH AH00355836

**TESTS CONDUCTED** 



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



APPLICANT: LITTELFUSE, INC. DATE: OCT 29, 2012

800 E. NORTHWEST HWY A.DIVIETRO/D.UNTIEDT ATT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE RED INK. PART DESCRIPTION INK-RED. PART NUMBER 425901.

DATE SAMPLE RECEIVED OCTOBER.19, 2012. DATE TEST STARTED OCTOBER.19, 2012.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

# I) Test Result Summary:

Testing Item	Result (ppm)
Heavy Metal	·
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) 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

NUMBER: SH

AH00346635

# (III) Test Method:

esting Method R	eporting Limit
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
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
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
With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
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
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
	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.  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.  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.  With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.  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.  With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further

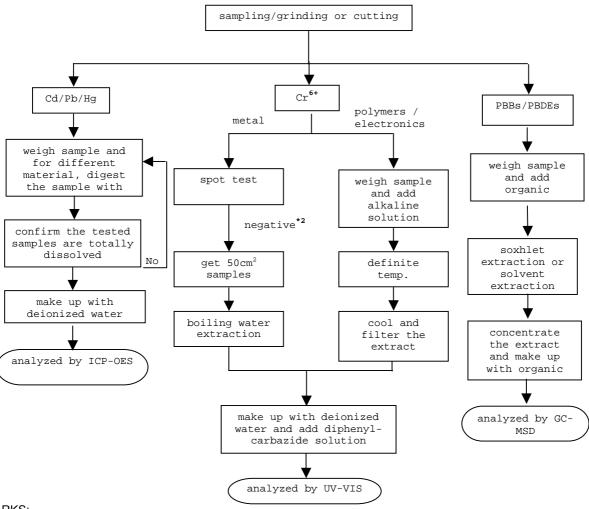
Remark: Reporting limit = Quantitation limit of analyte in sample



#### **TESTS CONDUCTED**

(IV) Measurement Flowchart:

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



### **REMARKS:**

\*1: List of appropriate acid:

1. List of appropriate acid:	
<u>Material</u>	Acid added for digestion
Polymers	HNO <sub>3,</sub> HCI,HF,H <sub>2</sub> O <sub>2,</sub> H <sub>3</sub> BO <sub>3</sub>
Metals HNO	<sub>3,</sub> HCl,HF
Electronics H	NO <sub>3</sub> ,HCl,H <sub>2</sub> O <sub>2</sub> ,HBF <sub>4</sub>

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



# **TESTS CONDUCTED**

# I) Test Result Summary:

Testing Item	Result (ppm)
Halogen Content	
Fluorine (F)	ND
Chlorine (CI)	1000
Bromine (Br)	ND
lodine (I)	ND

ppm = Parts per million = mg/kg Remarks:

ND = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

Testing Item T	esting Method R	eporting Limit
IHAIOGEN CONTENT	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

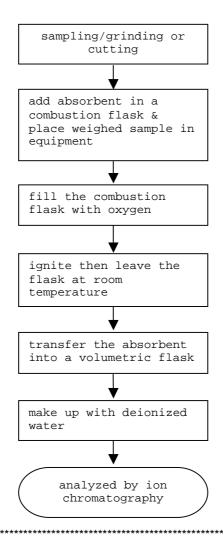
Remark: Reporting limit = Quantitation limit of analyte in sample



### **TESTS CONDUCTED**

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582





# **TESTS CONDUCTED**

#### 3 (A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

REMARKS:

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

### (B) TEST METHOD:

TESTING ITEM TE	STING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



NUMBER: SH AH00346635

**TESTS CONDUCTED** 

# **MEASUREMENT FLOWCHART:**

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

WEIGH SAMPLE AND PLACE INTO A THIMBLE IJ SOXHLET EXTRACTION WITH ORGANIC SOLVENT CONCENTRATE THE EXTRACT TRANSFER THE EXTRACT INTO A VOLUMETRIC FLASK IJ MAKE UP WITH ORGANIC SOLVENT IJ ANALYZE BY GC-MSD



#### **TESTS CONDUCTED**

# 4 PHT HALATE CONTENT TEST

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

TESTED COMPOUND R	<u>ESULT (%,W/W)</u>	LIMIT(%,W/W)
		(MAX.)
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 & AMENDENT NO.552/2009 FOR PHTHALATE CONTENT IN TOYS

AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

### 5 PHT HALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND R	<u>ESULT (%,W/W)</u>	LIMIT(%,W/W)
		(MAX.)
DI-BUTYL 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 & AMENDMENT H.R.2715 FOR PROHIBITION ON SALE OF CERTAIN

PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

DATE SAMPLE RECEIVED: OCT.19, 2012

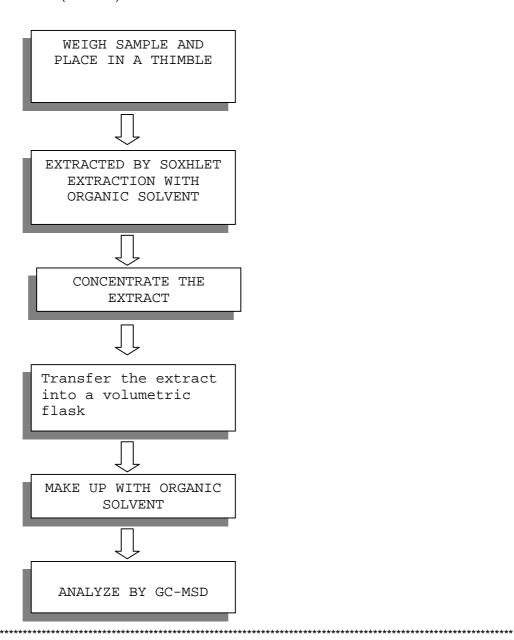
TESTING PERIOD: OCT.19, 2012 TO OCT.23, 2012



NUMBER: SH AH00346635

**TESTS CONDUCTED** MEASUREMENT FLOWCHART:

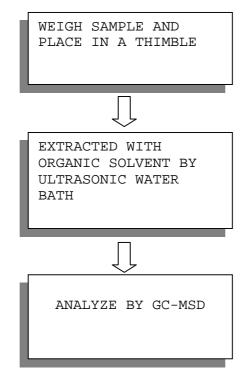
TEST FOR PHTHALATES CONTENTS (EN14372)





**TESTS CONDUCTED** MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)





**TESTS CONDUCTED** 



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



DATE:

OCT 29, 2012

APPLICANT: LITTELFUSE,INC.

800 E. NORTHWEST HWY

A.DIVIETRO/D.UNTIEDT ATT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **BLACK INK.** PART DESCRIPTION INK-BLACK. 425902. PART NUMBER

DATE SAMPLE RECEIVED OCTOBER.15, 2012. DATE TEST STARTED OCTOBER.15, 2012.

TESTS CONDUCTED:

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

# I) Test Result Summary:

Testing Item	Result (ppm)
Heavy Metal	·
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) 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

NUMBER: SH

AH00345635

# (III) Test Method:

esting Method R	eporting Limit
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
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
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
With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
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
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
	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.  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.  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.  With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.  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.  With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further

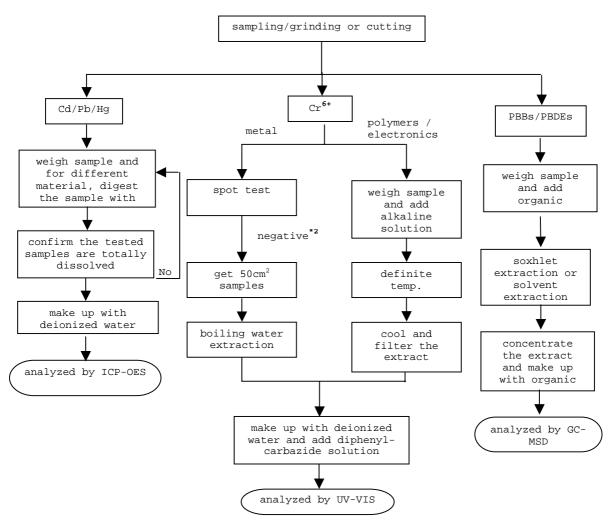
Reporting limit = Quantitation limit of analyte in sample Remark:



## **TESTS CONDUCTED**

## (IV) Measurement Flowchart:

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



# **REMARKS:**

\*1: List of appropriate acid:

<u>Material</u>	Acid added for digestion
Polymers	HNO <sub>3,</sub> HCl,HF,H <sub>2</sub> O <sub>2,</sub> H <sub>3</sub> BO <sub>3</sub>
Metals HNO	3,HCI,HF
Electronics H	NO <sub>3,</sub> HCI,H <sub>2</sub> O <sub>2,</sub> HBF <sub>4</sub>

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



# **TESTS CONDUCTED**

# I) Test Result Summary:

Testing Item	Result (ppm)
Halogen Content	
Fluorine (F)	ND
Chlorine (CI)	150
Bromine (Br)	ND
lodine (I)	ND

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Leaf Liu

## (III) Test Method:

Testing Item T	esting Method R	eporting Limit
IHAIOOEN CONIENT	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

Reporting limit = Quantitation limit of analyte in sample Remark:

TO BE CONTINUED

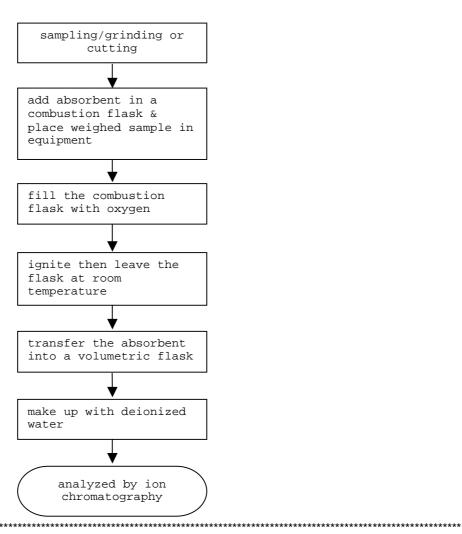
AH00345635



# **TESTS CONDUCTED**

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345635



NUMBER: SH AH00345635

# **TESTS CONDUCTED**

#### 3 (A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

REMARKS:

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

# (B) TEST METHOD:

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



**TESTS CONDUCTED** 

# MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

WEIGH SAMPLE AND PLACE INTO A THIMBLE IJ SOXHLET EXTRACTION WITH ORGANIC SOLVENT CONCENTRATE THE EXTRACT TRANSFER THE EXTRACT INTO A VOLUMETRIC FLASK IJ MAKE UP WITH ORGANIC SOLVENT IJ ANALYZE BY GC-MSD

TO BE CONTINUED



## **TESTS CONDUCTED**

# 4 PHT HALATE CONTENT TEST

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

TESTED COMPOUND R	<u>ESULT (%,W/W)</u>	LIMIT(%,W/W)
		(MAX.)
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 & AMENDENT NO.552/2009 FOR PHTHALATE CONTENT IN TOYS

AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

## 5 PHT HALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND R	ESULT (%,W/W)	LIMIT(%,W/W)
		(MAX.)
DI-BUTYL 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 & AMENDMENT H.R.2715 FOR PROHIBITION ON SALE OF CERTAIN

PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

DATE SAMPLE RECEIVED: OCT.15, 2012

TESTING PERIOD: OCT.15, 2012 TO OCT.18, 2012 

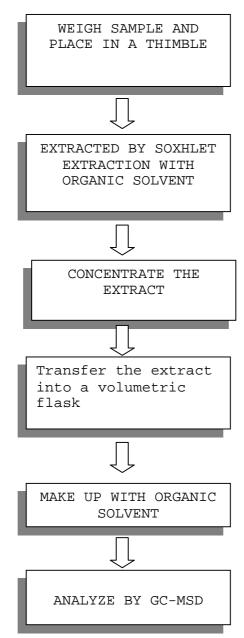


NUMBER: SH AH00345635

## **TESTS CONDUCTED**

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

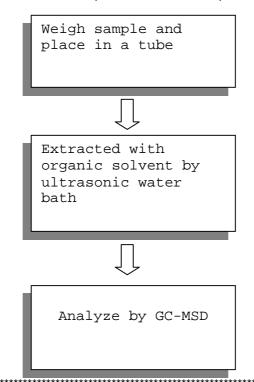




# **TESTS CONDUCTED**

## MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)





**TESTS CONDUCTED** 

NUMBER: SH AH00345635

# SHAH00345635

**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



APPLICANT: LITTELFUSE, INC. DATE:

ΑT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **BLUE INK**. PART DESCRIPTION INK-BLUE. PART NUMBER 425904.

800 E. NORTHWEST HWY

DATE SAMPLE RECEIVED OCTOBER.15, 2012. DATE TEST STARTED OCTOBER.15, 2012.

TESTS CONDUCTED:

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

TO BE CONTINUED

OCT 26, 2012

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



# **TESTS CONDUCTED**

# 1 ( I) Test Result Summary:

<u>Testing Item</u>	Result (ppm)
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) 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

# (III) Test Method:

(III) Test Method.		
Testing Item T	esting Method R	eporting Limit
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 <sup>6+</sup> ) 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

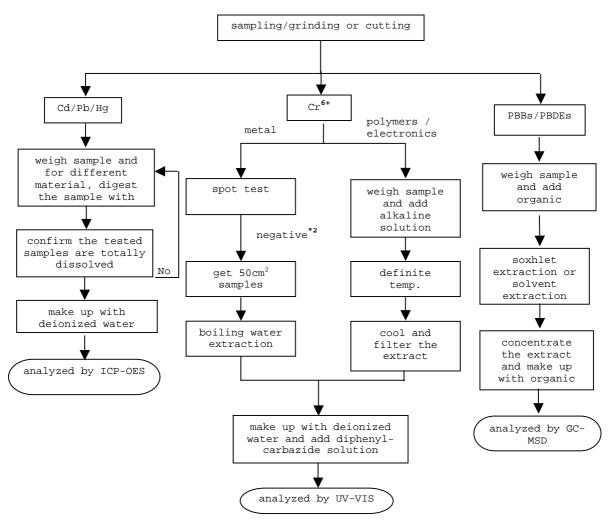
Remark: Reporting limit = Quantitation limit of analyte in sample



## **TESTS CONDUCTED**

(IV) Measurement Flowchart:

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



## **REMARKS:**

\*1: List of appropriate acid

i. List of appropriate acid:		
	<u>Material</u>	Acid added for digestion
	Polymers	HNO <sub>3</sub> ,HCl,HF,H <sub>2</sub> O <sub>2</sub> ,H <sub>3</sub> BO <sub>3</sub>
	Metals HNO	<sub>3,</sub> HCl,HF
	Electronics H	NO <sub>3,</sub> HCl,H <sub>2</sub> O <sub>2,</sub> HBF <sub>4</sub>

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



# **TESTS CONDUCTED**

# 2 ( I) Test Result Summary:

Testing Item	Result (ppm)
Halogen Content	
Fluorine (F)	ND
Chlorine (CI)	600
Bromine (Br)	ND
lodine (I)	ND

ppm = Parts per million = mg/kg Remarks:

Ν = Not detected D

Responsibility Of Chemist : Leaf Liu

# (III) Test Method:

Testing Item T	esting Method R	eporting Limit
	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

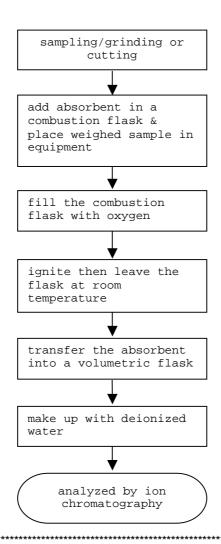
Remark: Reporting limit = Quantitation limit of analyte in sample



## **TESTS CONDUCTED**

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345415



# **TESTS CONDUCTED**

#### 3 (A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

REMARKS:

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

	(R)	<b>TEST</b>	MET	LHUD	
1	(D)	ILOI	IVIC I	טטחו	

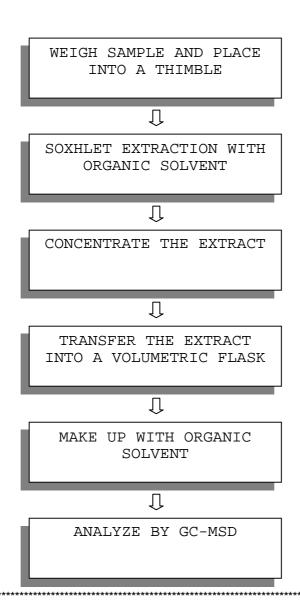
TESTING ITEM T	_ESTING METHOD	REPORTING LIMIT
THRCD (HEXARROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



NUMBER: SH AH00345415

## **TESTS CONDUCTED** MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT





**TESTS CONDUCTED** 

NUMBER: SH AH00345415

#### 4 PHTHALATE CONTENT TEST

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

TESTED COMPOUND RESULT	(%,W/W)	LIMIT(%,W/W)
		<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 & AMENDENT NO.552/2009 FOR PHTHALATE CONTENT IN TOYS

AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

#### 5 PHTHALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND RESULT	(%,W/W)	LIMIT(%,W/W)
		(MAX.)
DI-BUTYL 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

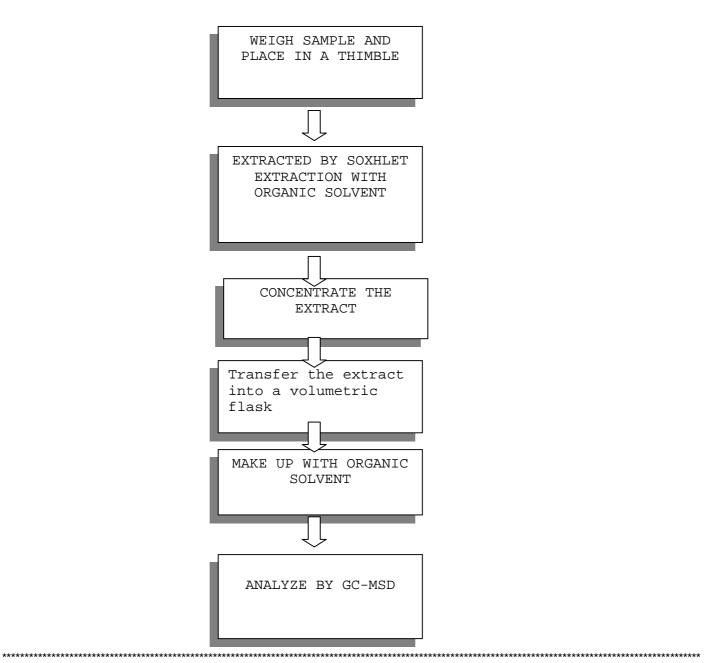


MEASUREMENT FLOWCHART:

# **TEST REPORT**

**TESTS CONDUCTED** 

TEST FOR PHTHALATES CONTENTS (EN14372)



NUMBER: SH

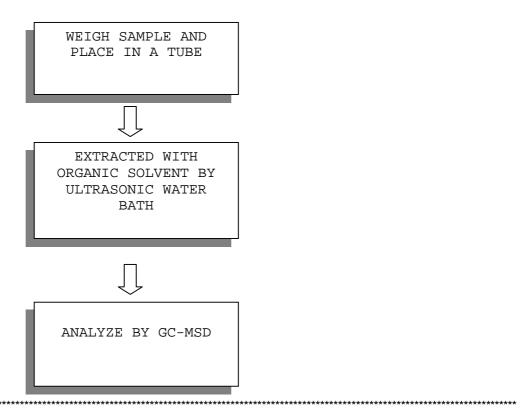
AH00345415



NUMBER: SH AH00345415

## **TESTS CONDUCTED** MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)





NUMBER: SH AH00345415

**TESTS CONDUCTED** 



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



APPLICANT: LITTELFUSE, INC. DATE: OCT 29, 2012

800 E. NORTHWEST HWY ΑT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **ORANGE INK.** PART DESCRIPTION INK-ORANGE. 425900. PART NUMBER

DATE SAMPLE RECEIVED OCTOBER.15, 2012. DATE TEST STARTED OCTOBER.15, 2012.

TESTS CONDUCTED:

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



# **TESTS CONDUCTED**

## I) Test Result Summary:

<u>Testing Item</u>	Result (ppm)	
Heavy Metal		
Cadmium (Cd) content	ND	
Lead (Pb) content	ND	
Mercury (Hg) content	ND	
Chromium VI (Cr <sup>6+</sup> ) 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	

# (III) Test Method:

(III) Test Method.		
Testing Item T	esting Method R	eporting Limit
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 <sup>6+</sup> ) 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

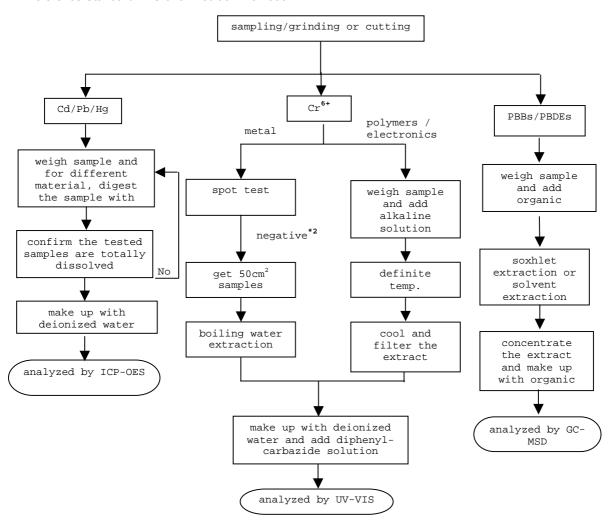
Remark: Reporting limit = Quantitation limit of analyte in sample



## **TESTS CONDUCTED**

(IV) Measurement Flowchart:

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



# REMARKS:

\*1: List of appropriate acid

i oi appropriate aciu:	
<u>Material</u>	Acid added for digestion
Polymers HNO	3,HCl,HF,H2O2,H3BO3
Metals HNO	<sub>3,</sub> HCl,HF
Electronics H	NO <sub>3</sub> ,HCl,H <sub>2</sub> O <sub>2</sub> ,HBF <sub>4</sub>

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



# **TESTS CONDUCTED**

2 ( I) Test Result Summary:

	Testing Item	Result (ppm)
Halogen Content		<u> </u>
Fluorine (F)		ND
Chlorine (CI)		14500
Bromine (Br)		ND
lodine (I)		ND

ppm = Parts per million = mg/kg Remarks:

= Not detected

Responsibility Of Chemist : LEAF LIU

# (III) Test Method:

Testing Item T	esting Method R	eporting Limit
nalogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

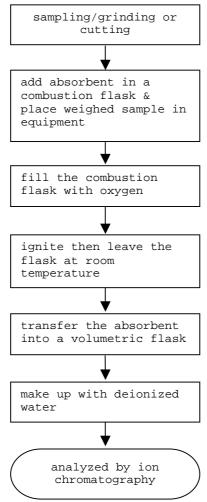
Reporting limit = Quantitation limit of analyte in sample Remark:



**TESTS CONDUCTED** 

( ${\rm IV}$ ) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345629



**TESTS CONDUCTED** 

(A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

**REMARKS**:

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

(B) TEST METHOD:

TESTING ITEM T	ESTING METHOD REPORT	ING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



NUMBER: SH AH00345629

## **TESTS CONDUCTED** MEASUREMENT FLOWCHART

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

WEIGH SAMPLE AND PLACE INTO A THIMBLE SOXHLET EXTRACTION WITH ORGANIC SOLVENT IJ CONCENTRATE THE EXTRACT TRANSFER THE EXTRACT INTO A VOLUMETRIC FLASK  $\mathbf{1}$ MAKE UP WITH ORGANIC SOLVENT Ŋ ANALYZE BY GC-MSD

TO BE CONTINUED



### **TESTS CONDUCTED**

## 4 PHTHALATE CONTENT TEST

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

TESTED COMPOUND RESULT	(%,W/W)	LIMIT(%,W/W)
		<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 & AMENDENT NO.552/2009

FOR PHTHALATE CONTENT IN TOYS AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

## 5 PHTHALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND RESULT	(%,W/W)	<u>LIMIT(%,W/W)</u>
		(MAX.)
DI-BUTYL 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 & AMENDMENT H.R.2715 FOR PROHIBITION ON

SALE OF CERTAIN PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

DATE SAMPLE RECEIVED: OCT.15, 2012

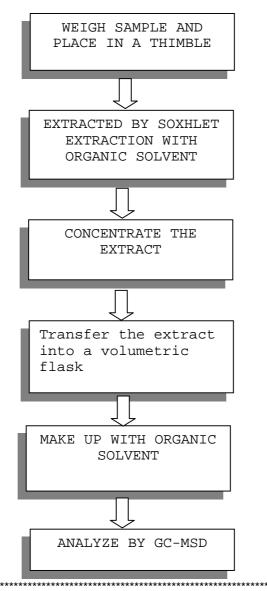
TESTING PERIOD: OCT.15, 2012 TO OCT.18, 2012



**TESTS CONDUCTED** 

## **MEASUREMENT FLOWCHART:**

TEST FOR PHTHALATES CONTENTS (EN14372)

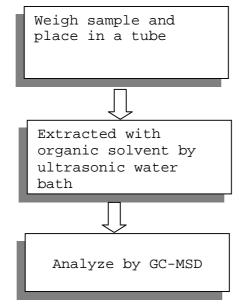




**TESTS CONDUCTED** 

## **MEASUREMENT FLOWCHART:**

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)





**TESTS CONDUCTED** 





**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



APPLICANT: LITTELFUSE, INC. DATE: OCT 26, 2012

800 E. NORTHWEST HWY ΑT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE YELLOW INK. PART DESCRIPTION INK-YELLOW. 425903. PART NUMBER

DATE SAMPLE RECEIVED OCTOBER.15, 2012. DATE TEST STARTED OCTOBER.15, 2012.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

# I) Test Result Summary:

Testing Item	Result (ppm)		
Heavy Metal			
Cadmium (Cd) content	ND		
Lead (Pb) content	ND		
Mercury (Hg) content	ND		
Chromium VI (Cr <sup>6+</sup> ) 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)			
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND		
Octabrominated Diphenyl Ethers (OctaBDE)	ND		
Nonabrominated Diphenyl Ethers (NonaBDE)	ND		
Decabrominated Diphenyl Ether (DecaBDE)	ND		

NUMBER: SH

AH00345662

## (III) Test Method:

esting Method R	eporting Limit
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
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
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
With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
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
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
	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.  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.  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.  With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.  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.  With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further

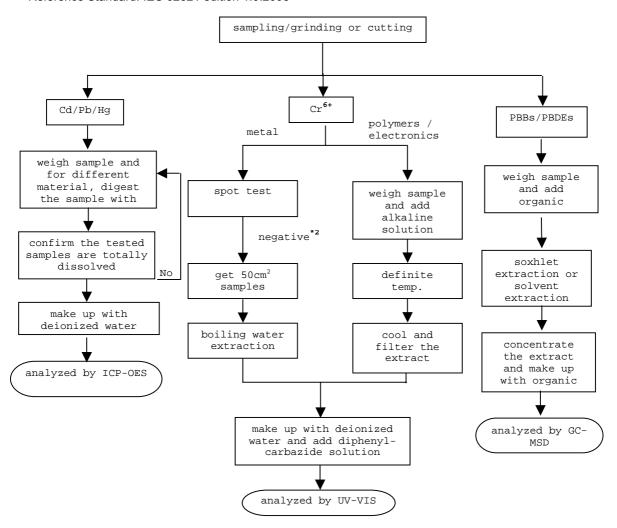
Reporting limit = Quantitation limit of analyte in sample Remark:



## **TESTS CONDUCTED**

## (IV) Measurement Flowchart:

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



# **REMARKS:**

\*1: List of appropriate acid:

<u>Material</u>	Acid added for digestion
Polymers	HNO <sub>3</sub> ,HCl,HF,H <sub>2</sub> O <sub>2</sub> ,H <sub>3</sub> BO <sub>3</sub>
Metals HNO	<sub>3,</sub> HCl,HF
Electronics H	NO <sub>3,</sub> HCI,H <sub>2</sub> O <sub>2,</sub> HBF <sub>4</sub>

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



**TESTS CONDUCTED** 

# 2 ( I) Test Result Summary:

Testing Item	Result (ppm)
Halogen Content	
Fluorine (F)	ND
Chlorine (CI)	7400
Bromine (Br)	ND
lodine (I)	ND

NUMBER: SH

AH00345662

ppm = Parts per million = mg/kg Remarks:

Ν = Not detected D

Responsibility Of Chemist : Leaf Liu

## (III) Test Method:

Testing Item T	esting Method R	eporting Limit
	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

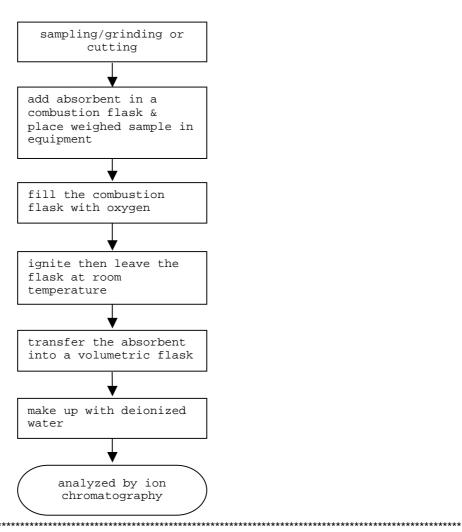
Remark: Reporting limit = Quantitation limit of analyte in sample



### **TESTS CONDUCTED**

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582





**TESTS CONDUCTED** 

#### 3 (A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

NUMBER: SH

AH00345662

**REMARKS:** 

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

### (B) TEST METHOD:

TESTING ITEM T	ESTING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



**TESTS CONDUCTED** 

### **MEASUREMENT FLOWCHART:**

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

WEIGH SAMPLE AND PLACE INTO A THIMBLE IJ SOXHLET EXTRACTION WITH ORGANIC SOLVENT CONCENTRATE THE EXTRACT TRANSFER THE EXTRACT INTO A VOLUMETRIC FLASK IJ MAKE UP WITH ORGANIC SOLVENT IJ ANALYZE BY GC-MSD

TO BE CONTINUED



#### **TESTS CONDUCTED**

#### 4 PHTHALATE CONTENT TEST

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

TESTED COMPOUND RESULT	(%,W/W)	LIMIT(%,W/W)
		(MAX.)
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 & AMENDENT NO.552/2009 FOR PHTHALATE CONTENT IN TOYS

AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

### 5 PHTHALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND RESULT	(%,W/W)	LIMIT(%,W/W)
		(MAX.)
DI-BUTYL 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 & AMENDMENT H.R.2715 FOR PROHIBITION ON SALE OF CERTAIN

PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

DATE SAMPLE RECEIVED: OCT.15, 2012

TESTING PERIOD : OCT.15, 2012 TO OCT.19, 2012

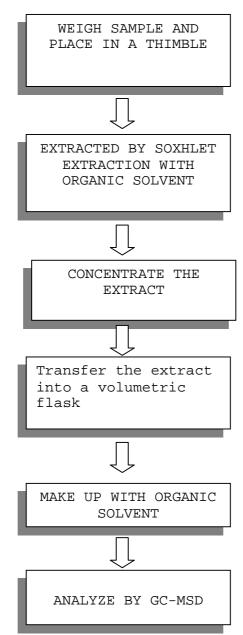


NUMBER: SH AH00345662

### **TESTS CONDUCTED**

### MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)



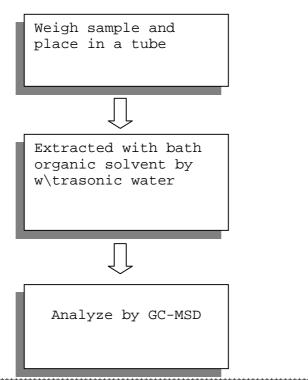


NUMBER: SH AH00345662

### **TESTS CONDUCTED**

### MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)





**TESTS CONDUCTED** 

NUMBER: SH AH00345662



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



DATE:

OCT 29, 2012

APPLICANT: LITTELFUSE, INC.

800 E. NORTHWEST HWY A.DIVIETRO/D.UNTIEDT

ATT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **GREEN INK.** PART DESCRIPTION INK-GREEN. PART NUMBER 425907.

DATE SAMPLE RECEIVED OCTOBER.15, 2012. DATE TEST STARTED OCTOBER.15, 2012.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

### I) Test Result Summary:

Testing Item	Result (ppm)
Heavy Metal	·
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) 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

NUMBER: SH

AH00345639

## (III) Test Method:

esting Method R	eporting Limit
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
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
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
With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
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
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
	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.  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.  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.  With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.  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.  With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further

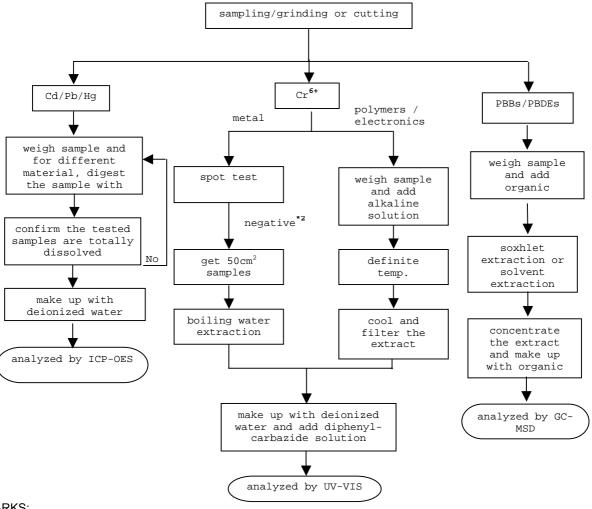
Remark: Reporting limit = Quantitation limit of analyte in sample



#### **TESTS CONDUCTED**

#### (IV) Measurement Flowchart:

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



### REMARKS:

\*1: List of appropriate acid:

i. List of appropriate acid:	
<u>Material</u>	Acid added for digestion
Polymers	HNO <sub>3</sub> ,HCl,HF,H <sub>2</sub> O <sub>2</sub> ,H <sub>3</sub> BO <sub>3</sub>
Metals HNO	3,HCI,HF
Electronics H	NO <sub>3</sub> ,HCl,H <sub>2</sub> O <sub>2</sub> ,HBF <sub>4</sub>

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



### **TESTS CONDUCTED**

#### 2 (I) Test Result Summary:

	Testing Item	Result (ppm)
Halogen Content		
Fluorine (F)		200
Chlorine (CI)		650
Bromine (Br)		ND
lodine (I)		ND

ppm = Parts per million = mg/kg Remarks:

ND = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

Testing Item T	esting Method R	eporting Limit
imalogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

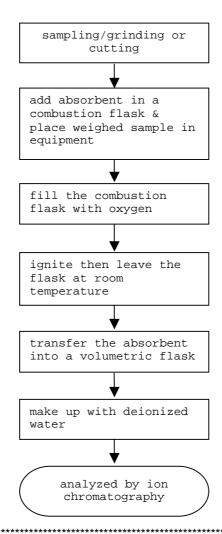
Remark: Reporting limit = Quantitation limit of analyte in sample



### **TESTS CONDUCTED**

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345639



**TESTS CONDUCTED** 

#### 3 (A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

NUMBER: SH

AH00345639

REMARKS:

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

### (B) TEST METHOD:

TESTING ITEM TE	STING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



NUMBER: SH AH00345639

**TESTS CONDUCTED** 

### **MEASUREMENT FLOWCHART:**

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

WEIGH SAMPLE AND PLACE INTO A THIMBLE IJ SOXHLET EXTRACTION WITH ORGANIC SOLVENT CONCENTRATE THE EXTRACT TRANSFER THE EXTRACT INTO A VOLUMETRIC FLASK IJ MAKE UP WITH ORGANIC SOLVENT IJ ANALYZE BY GC-MSD



#### **TESTS CONDUCTED**

## 4 PHT HALATE CONTENT TEST

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

TESTED COMPOUND R	<u>ESULT (%,W/W)</u>	LIMIT(%,W/W)
		(MAX.)
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 & AMENDENT NO.552/2009 FOR PHTHALATE CONTENT IN TOYS

AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

### 5 PHT HALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND R	ESULT (%,W/W)	LIMIT(%,W/W)
		<u>(MAX.)</u>
DI-BUTYL 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 & AMENDMENT H.R.2715 FOR PROHIBITION ON SALE OF CERTAIN

PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

DATE SAMPLE RECEIVED: OCT.15, 2012

TESTING PERIOD: OCT.15, 2012 TO OCT.18, 2012

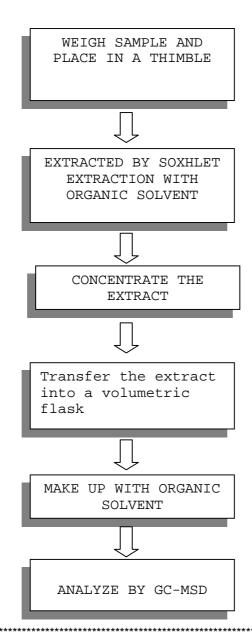


NUMBER: SH AH00345639

**TESTS CONDUCTED** 

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)



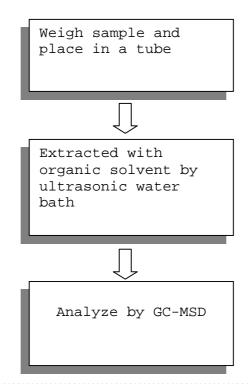


NUMBER: SH AH00345639

**TESTS CONDUCTED** 

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)





**TESTS CONDUCTED** 

NUMBER: SH AH00345639



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



APPLICANT: LITTELFUSE,INC. DATE: OCT 29, 2012

800 E. NORTHWEST HWY

A.DIVIETRO/D.UNTIEDT ATT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE VIOLET INK. PART DESCRIPTION INK-VIOLET. PART NUMBER 425911.

DATE SAMPLE RECEIVED OCTOBER.15, 2012. DATE TEST STARTED OCTOBER.15, 2012.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

### I) Test Result Summary:

Testing Item	Result (ppm)
Heavy Metal	·
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) 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

NUMBER: SH

AH00345663

## (III) Test Method:

esting Method R	eporting Limit
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
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
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
With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
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
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
	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.  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.  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.  With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.  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.  With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further

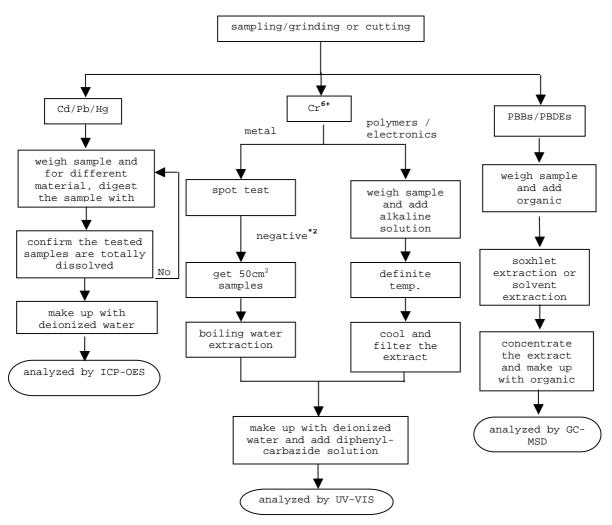
Reporting limit = Quantitation limit of analyte in sample Remark:



#### **TESTS CONDUCTED**

#### (IV) Measurement Flowchart:

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



## **REMARKS:**

\*1: List of appropriate acid:

<u>Material</u>	Acid added for digestion
Polymers	HNO <sub>3</sub> ,HCl,HF,H <sub>2</sub> O <sub>2</sub> ,H <sub>3</sub> BO <sub>3</sub>
Metals HNO	<sub>3,</sub> HCl,HF
Electronics H	NO <sub>3,</sub> HCI,H <sub>2</sub> O <sub>2,</sub> HBF <sub>4</sub>

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



### **TESTS CONDUCTED**

### I) Test Result Summary:

Testing Item	Result (ppm)
Halogen Content	
Fluorine (F)	ND
Chlorine (CI)	6800
Bromine (Br)	ND
lodine (I)	ND

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Leaf Liu

### (III) Test Method:

Testing Item T	esting Method R	eporting Limit
IHAIOOEN CONIENT	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

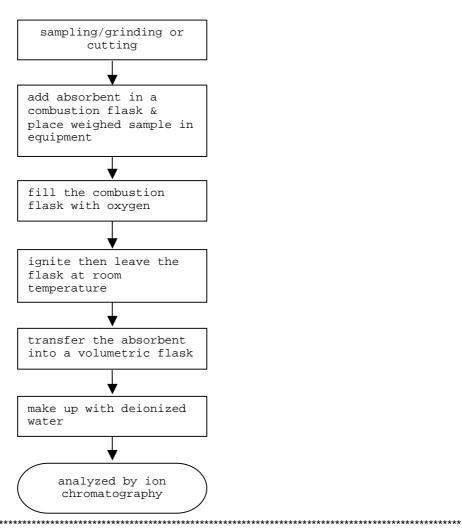
Reporting limit = Quantitation limit of analyte in sample Remark:



**TESTS CONDUCTED** 

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345663



**TESTS CONDUCTED** 

#### 3 (A) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT(ppm)
HBCD (HEXABROMOCYCLODODECANE)	ND

NUMBER: SH

AH00345663

REMARKS:

ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

### (B) TEST METHOD:

TESTING ITEM TE	STING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



NUMBER: SH AH00345663

**TESTS CONDUCTED** 

## MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

WEIGH SAMPLE AND PLACE INTO A THIMBLE IJ SOXHLET EXTRACTION WITH ORGANIC SOLVENT CONCENTRATE THE EXTRACT TRANSFER THE EXTRACT INTO A VOLUMETRIC FLASK IJ MAKE UP WITH ORGANIC SOLVENT IJ ANALYZE BY GC-MSD

TO BE CONTINUED



#### **TESTS CONDUCTED**

### 4 PHT HALATE CONTENT TEST

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

TESTED COMPOUND R	<u>ESULT (%,W/W)</u>	LIMIT(%,W/W)
		(MAX.)
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 & AMENDENT NO.552/2009 FOR PHTHALATE CONTENT IN TOYS

AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

### 5 PHT HALATE CONTENT TEST

WITH REFERENCE TO CPSC-CH-C1001-09.3, BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) ANALYSIS.

TESTED COMPOUND R	<u>ESULT (%,W/W)</u>	LIMIT(%,W/W)
		<u>(MAX.)</u>
DI-BUTYL 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 & AMENDMENT H.R.2715 FOR PROHIBITION ON SALE OF CERTAIN

PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

DATE SAMPLE RECEIVED: OCT.15, 2012

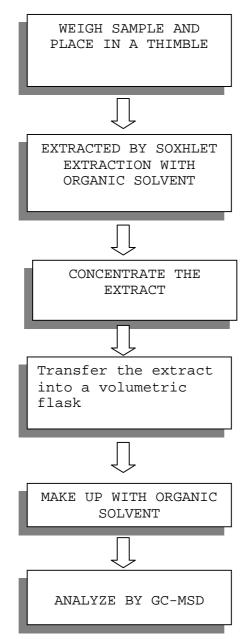
TESTING PERIOD : OCT.15, 2012 TO OCT.23, 2012



**TESTS CONDUCTED** 

### MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)



TO BE CONTINUED

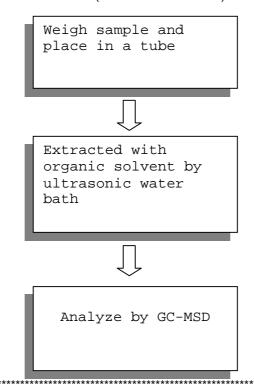
NUMBER: SH AH00345663



**TESTS CONDUCTED** 

### MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (CPSC-CH-C1001-09.3)



TO BE CONTINUED

NUMBER: SH

AH00345663



**TESTS CONDUCTED** 

NUMBER: SH AH00345663



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



NO.: A002R121008024-2R02

Date: Oct.10, 2012

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: Lead wire copper shell

Model: /

Item/Lot No.: /

Material: /

Buyer: /

Supplier: / Manufacturer: /

Comple resolved date.

Sample received date: Oct. 08, 2012

Testing period: From Oct. 08, 2012 to Oct. 10, 2012

#### **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:

#### 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)\*\*\*\*\*\*

Signed for and on behalf of Shenzhen AOV Testing Technology Co., Ltd, Kunshan Branch

Project Leader:

Li Tingting, Maggie

**Chemical Test Director** 

Reviewed by: WEIKIN

Wang Wexin, Weikin

Technical Director

Approved by:

Yuan Qi, Mickey

Lab Manager

<sup>-\* 0.02</sup> mg/kg refers to the MQL of sample extraction liquid.



out sample

# **TEST REPORT**

NO.: A002R121008024-2R02 Date: Oct.10, 2012 Page 2 of 4 Test Flow: 1. To Determine Lead, Cadmium Content: (Metal substrate) Tested by: onoul Weigh the sample into Add the digestion solution; the Add H2O2 until the sample is clear vessel is heated until the sample a vessel. has been dissolved Cooling the vessel, filter; washed and Tested by ICP-OES Report filled to the mark with distilled water. 2. To Determine Mercury Content: (Metal substrate) Tested by: The sample is digested in the Weigh the sample Add the digestion solution, close microwave oven following a specific into a vessel. the microwave vessel. decomposition program. Cooling the vessel, filter; washed and Tested by ICP-OES Report filled to the mark with distilled water. 3. To Determine Hexavalent Chromium Content (boiling- water- extraction): (Metal substrate) Tested by: Remove the sample, and cool Take the (50±5) cm2 Heat 50 mL of DI water in the beaker to room temperature, sample in the beaker. the beaker to boiling for 10 and do the color reaction Test the sample solution and the 0.02 Report mg/kg standard solution by UV-VIS. 4. To Determine Lead, Cadmium and Mercury Content: (Plating) Tested by: now Cooling, filter; washed and Weigh the plating-Tested by Report

filled to the mark with DI water.

Instrument



NO.: A002R121008024-2R02

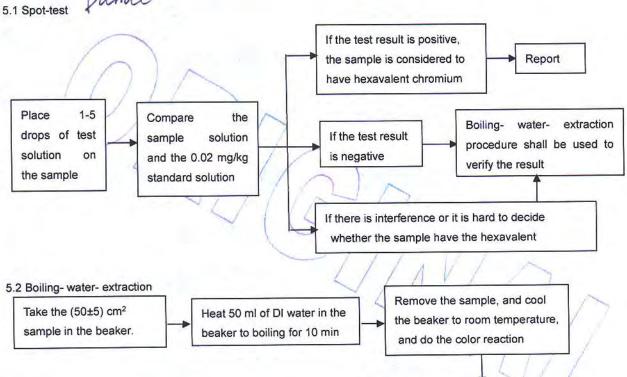
Date: Oct.10, 2012

Page 3 of 4

Test the sample solution and the 0.02

mg/kg standard solution by UV-VIS.

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



Report

ample D	escription.		
Code	Sample Description	Code	Sample Description
2-1	Lead wire substrate	2-3	Copper shell substrate
2-2	Lead wire Plating	2-4	Copper shell Plating

#### st Results:

Item	Unit	RoHS Limit	Result			
			2-1	2-2**	2-3	2-4**
Lead (Pb)	mg/kg	1000	N.D.	N.D.	N.D.	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





NO.: A002R121008024-2R02

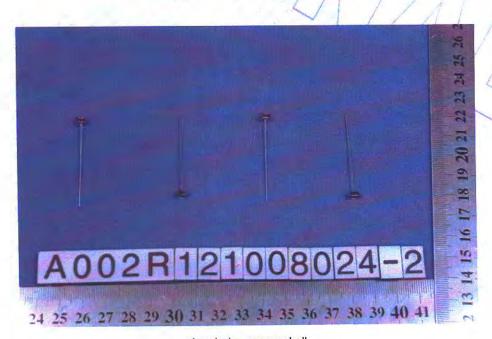
Date: Oct.10, 2012

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



Lead wire copper shell

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





APPLICANT: LITTELFUSE,INC. DATE: DEC 10, 2012

800 E. NORTHWEST HWY ATT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE(1) SUBMITTED SAMPLE SAID TO BE WHITE SAND. ITEM NAME SAND. PART NO. 091254.

**TESTS CONDUCTED:** 

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

TO BE CONTINUED

**AUTHORIZED BY:** FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

**GENERAL MANAGER** 



**TESTS CONDUCTED** 

### 1 ( I) TEST RESULT SUMMARY:

TESTING ITEM R	ESULT (ppm)
HEAVY METAL	
CADMIUM (Cd) CONTENT	ND
LEAD (Pb) CONTENT	ND
MERCURY (Hg) CONTENT	ND
CHROMIUM VI (Cr <sup>6+</sup> ) 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
HALOGEN CONTENT	
FLUORINE (F)	ND
CHLORINE (CI)	ND
BROMINE (Br)	ND
IODINE (I)	ND

NUMBER: SH AH00355778

REMARKS: ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

RESPONSIBILITY OF CHEMIST: DENT FANG / LEAF LIU

### (II) ROHS REQUIREMENT:

RESTRICTED SUBSTANCES LIM	ITS
CADMIUM (Cd) CONTENT	0.01% (100ppm)
LEAD (Pb) CONTENT	0.1% (1000ppm)
MERCURY (Hg) CONTENT	0.1% (1000ppm)
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	0.1% (1000ppm)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000ppm)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000ppm)

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



### **TESTS CONDUCTED**

### (III) TEST METHOD:

(III) TEOT METHOD.		
TESTING ITEM TE	STING METHOD	REPORTING LIMIT
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 <sup>6+</sup> ) 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

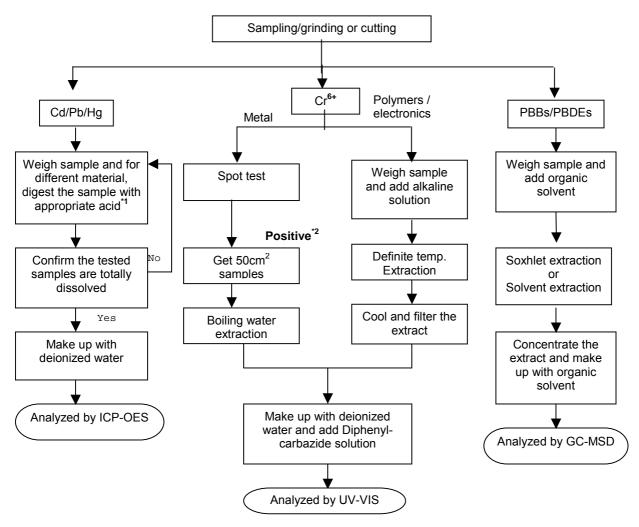
REMARK: REPORTING LIMIT = QUANTITATION LIMIT OF ANALYZE IN SAMPLE



**TEST REPORT** NUMBER: SH

### **TESTS CONDUCTED**

(IV) MEASUREMENT FLOWCHART: TEST FOR Cd/ Pb/ Hg/Cr (VI)/ PBBS/PBDES CONTENTS REFERENCE STANDARD: IÉC 62321 EDITION 1.0:2008



#### **REMARKS:**

\*1: LIST OF APPROPRIATE ACID.

1. LIST OF ALT NOT NIATE A	CID:
MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS HNO	<sub>3,</sub> HCL,HF,H <sub>2</sub> O <sub>2,</sub> H <sub>3</sub> BO <sub>3</sub>
METALS HNO	<sub>3,</sub> HCL,HF
ELECTRONICS HNO	3.HCL,H2O2.HBF4

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

TO BE CONTINUED

AH00355778



#### **TEST REPORT** NUMBER: SH AH00355778

### **TESTS CONDUCTED**

## 2 ( I) TEST RESULT SUMMARY:

TESTING ITEM	RESULT (ppm)
HALOGEN CONTENT	
FLUORINE (F)	ND
CHLORINE (CI)	ND
BROMINE (Br)	ND
IODINE (I)	ND

REMARKS: ppm = PARTS PER MILLION = mg/kg

= NOT DETECTED

RESPONSIBILITY OF CHEMIST : GRAVE WANG

#### (III) TEST METHOD:

TESTING ITEM TE	STING METHOD REPOR	TING LIMIT
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

DATE SAMPLE RECEIVED : DEC.5, 2012

TESTING PERIOD: DEC.5, 2012 TO DEC.7, 2012

TO BE CONTINUED

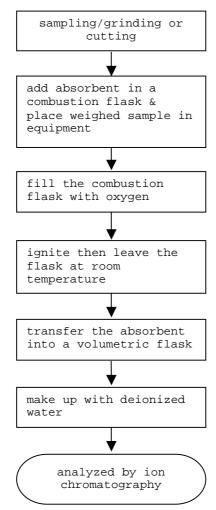


## **TEST REPORT**

**TESTS CONDUCTED** 

#### (IV) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT REFERENCE STANDARD: EN 14582



NUMBER: SH

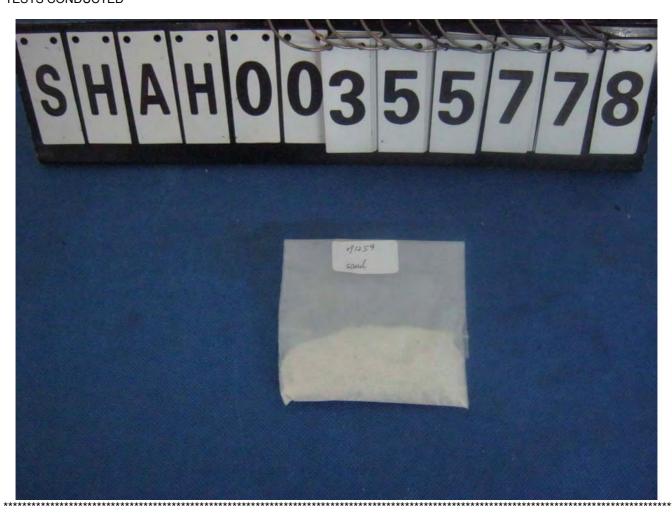
AH00355778

TO BE CONTINUED



**TESTS CONDUCTED** 

NUMBER: SH AH00355778



**END OF REPORT** 

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.



No. SHAEC1216714748

Date: 25 Sep 2012

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. :

SP12-028285 - SH

Part No. (P/N):

YTW108 (692535-001、692535-003)

Composition:

Sn3.0CuRE

Date of Sample Received :

21 Sep 2012

Testing Period:

21 Sep 2012 - 25 Sep 2012

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.

In and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of inibility in an analysis of the company's findings at the time of liability in the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exponsible to a transaction of the company in the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document on the property of the company in the company of the comp

arghai) Co\_Lid 3"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 鄭錦: 200233 e sgs.china@sgs.com



No. SHAEC1216714748

Date: 25 Sep 2012

Page 2 of 5

Test Results:

## Test Part Description:

Specimen No. SGS Sample ID

Description

1

SHA12-167147.041

Silvery 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)	<u>Limit</u>	<u>Unit</u>	MDL	041
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	55
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))		-	$\Diamond$	Negative
Sum of PBBs	1000	mg/kg	9.1	ND
Monobromobiphenyl	(4)	mg/kg	5	ND
Dibromobiphenyl	12	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	0.00	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl		mg/kg	5	ND
Octabromobiphenyl	4	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
	2.1	mg/kg	5	ND
Decabromobiphenyl	1000	mg/kg	1.41	ND
Sum of PBDEs  Monobromodiphenyl ether	-	mg/kg	5	ND
Several de Augustin and Santan Santan				

3°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 邮網: 200233 

Test Report	No. SHAEC121671474	18	Date: 25	Sep 2012	Page 3 of 5
Test Item(s)	<u>Limit</u>	<u>Unit</u>	MDL	041	
Dibromodiphenyl ether	-	mg/kg	5	ND	
Tribromodiphenyl ether	-	mg/kg	5	ND	
Tetrabromodiphenyl ether	G-	mg/kg	5	ND	
Pentabromodiphenyl ether	-	mg/kg	5	ND	
Hexabromodiphenyl ether	C-	mg/kg	5	ND	
Heptabromodiphenyl ether	2	mg/kg	5	ND	
Octabromodiphenyl ether	D4	mg/kg	5	ND	
Nonabromodiphenyl ether	4	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 Cr(VI) coating, Positive = Presence of Cr(VI) 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 Cr(VI) coating

Positive = Presence of Cr(VI) coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> 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.

It is and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms\_e-document.htm">www.sgs.com/terms\_e-document.htm</a>. Attention is drawn to the limitation of inability in the subject of the company's findings at the time of inability in the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document less not exponent at a transaction of the company is findings at the time of first produced and the subject of the subject of the company. The company's sole responsibility is to its Client and this document part is to its Client and the subject of the company. The company is the company is to its client and the subject of the company is to its client and this document part is to its Client and the docu

regitai (こ。) が 3 \*\* Building, No.889 Yishan Road Xuhui District, Shanghai China 200233 中国 - 上海・徐江区宜山路889号3号楼 邮線: 200233



No. SHAEC1216714748

Date: 25 Sep 2012

Page 4 of 5

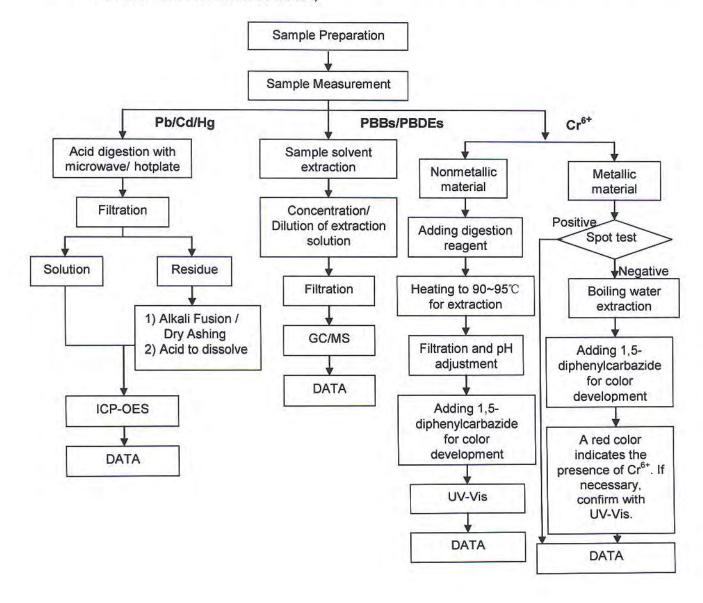
## **ATTACHMENTS**

## **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/ Linda Li

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> 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 <a href="https://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability in formation contained hereon reflects the Company's findings at the time of its individual within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exponent parties to a transaction for the exercising all thin highest and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. The company is unauthorized alternation, 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.

The second prior to the second prio

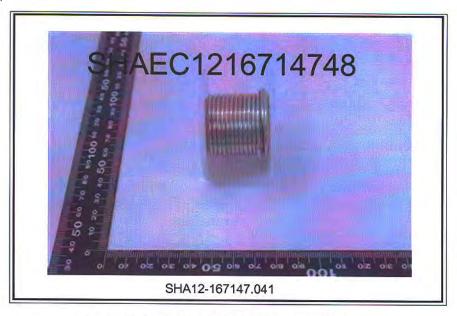
3"Bullding,No.889 Yishan Road Xuhui District,Shanghal China 200233 中国 - 上海 - 徐汇区宜山路889号3号楼 邮编: 200233 

No. SHAEC1216714748

Date: 25 Sep 2012

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 <a href="http://www.sgs.com/terms">http://www.sgs.com/terms</a> and conditions the mand for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/terms-e-document.htm">www.sgs.com/terms-e-document.htm</a>. Attention is drawn to the limitation of liability intermediate the formation is drawn to the limitation of liability intermediate the formation contained hereon reflects the Company's findings at the time of its intermediate 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 for the provision all this hights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. It was unauthorized alternation, 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.

Indeed, the content of the law is a support of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

3°Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 中国 - 上海·徐江区宜山路889号3号楼 邮编: 200233 

No. TSNEC1200272601

Date: 09 Apr 2012

Page 1 of 8

BEIJING HYSTIC NEW MATERIALS CO., LTD. 5 SHUANGYUAN ROAD, BADACHU HIGH-TECH ZONE, BEIJING. 100041, CHINA

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

SGS Job No.:

TP12-004950 - TJ

Model No.:

**EP608** 

Date of Sample Received:

31 Mar 2012

Testing Period:

31 Mar 2012 - 09 Apr 2012

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.

Aimy Wang

Approved Signatory

This document is issued by the Company subject to its General Conditions of Service printed overteaf, available on request or accessible at http://www.sgs.com/terms\_and\_conditions. btm\_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 in contribution on 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 first selficion only sity 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 force exercising all their lights and obligations under the transaction documents. This document cannot be reproduced except in full without prior written approval of the Company Available on the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law unlawful and offenders may be prosecuted to the fullest extent of the law unlawful and offenders may be prosecuted to the fullest extent of the law.



No. TSNEC1200272601

Date: 09 Apr 2012

Page 2 of 8

Test Results:

### Test Part Description:

Specimen No. SGS Sample ID Description 1

TSN12-002726.001 ivory-white paste

#### Remarks:

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL )

(4) "-" = Not Regulated

## RoHS Directive 2011/65/EU

With reference to IEC 62321:2008 Test Method:

- (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)	<b>Limit</b>	<u>Unit</u>	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	2	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	4	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	(a)	mg/kg	5	ND
Tetrabromobiphenyl	4	mg/kg	5	ND
Pentabromobiphenyl	100	mg/kg	5	ND
Hexabromobiphenyl		mg/kg	5	ND
Heptabromobiphenyl		mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	1 2	mg/kg	5	ND
Decabromobiphenyl	4	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	- 2	ND
Monobromodiphenyl ether	1.5	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 bitm\_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 of similar on 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 instructions of the company's sold responsibility is to its Client and this document does not exponsibility is to its Client and this document does not exponsibility is to its Client and this document does not exponsibility is to its Client and this document does not exponsibility is to its Client and this document does not exponsibility is to its Client and this document does not exponsibility in the limits of Client's instructions. If any, The Company's sold responsibility is to its Client and this document does not exponsibility in the limits of Client's instructions. If any, The Company's sold responsibility is to its Client and this document does not exponsibility in the limits of Client's instructions. If any, The Company's sold responsibility is to its Client and this document does not exponsible the company's sold responsibility is to its Client and this document document. This document cannot be reproduced except in full without prior written approval of the Company Application of the content of t

SGS Mansion, No. 41, The 5th Avenue TEDA, Tianjin, China 300457 1 [86-22] 65288000 1 (86-22) 25295252 中国 - 天津市经济技术开发区第五大街41号SGS大厦



Test Report	No. TSNEC120027260	01	Date: 09	Apr 2012	Page 3 of 8
Test Item(s)	<u>Limit</u>	<u>Unit</u>	MDL	001	
Dibromodiphenyl ether		mg/kg	5	ND	
Tribromodiphenyl ether	-	mg/kg	5	ND	
Tetrabromodiphenyl ether	40	mg/kg	5	ND	
Pentabromodiphenyl ether	-	mg/kg	5	ND	
Hexabromodiphenyl ether	ė.	mg/kg	5	ND	
Heptabromodiphenyl ether	000	mg/kg	5	ND	
Octabromodiphenyl ether	-	mg/kg	5	ND	
Nonabromodiphenyl ether	18	mg/kg	5	ND	
Decabromodiphenyl ether	ů.	mg/kg	5	ND	

#### Notes:

## Hexabromocyclododecane (HBCDD)

Test Method: With reference to IEC 62321:2008, analysis was performed by GC-MS.

Test Item(s)	<u>Unit</u>	MDL	001
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

#### Notes:

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

### **Phthalates**

Test Method: With reference to EN14372: 2004, analysis was performed by GC-MS.

Test Item(s)	<u>Unit</u>	MDL	001
Dibutyl Phthalate (DBP)	% (w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	% (w/w)	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	% (w/w)	0.003	ND
Notes:			

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

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.egs.com/terms\_e-document.htm. Attention is drawn to the limitation of liability of subject to the control of the

SGS Mansion, No. 41. The 5th Avenue TEDA, Tianjin, China 300457 1 (86-22) 65288000 1 (86-22) 25295252 中国·天津市经济技术开发区第五大衡41号SGS大厦

邮编: 300457 1 (86-22) 65288000 1 (86-22) 25295252

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



No. TSNEC1200272601

Date: 09 Apr 2012

Page 4 of 8

Result shown is of the total weight of wet sample

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 in a subject to the subject of the subject of



No. TSNEC1200272601

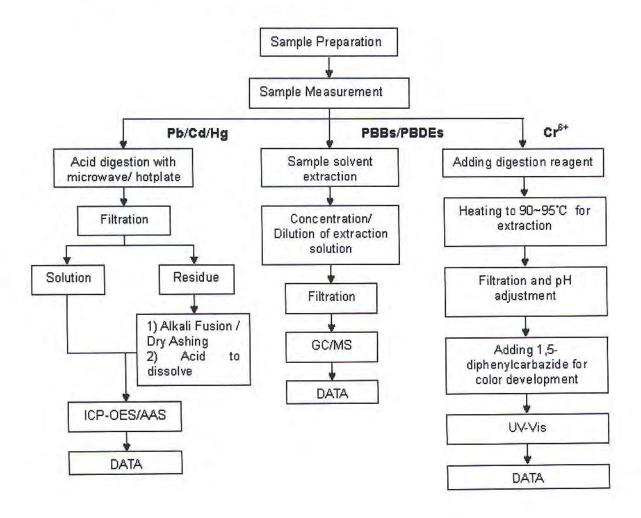
Date: 09 Apr 2012

Page 5 of 8

### **ATTACHMENTS**

## Cd/Pb/Hg/Cr<sup>S+</sup>/PBBs&PBDEs Flow Chart

- 1) Name of the person who made testing: Aaron Wang/Jason Li /Angell Yao
- 2) Name of the person in charge of testing: Cindy Yin/Rex Zhu
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr8+ 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 appropriate part of the specific part of

SGS Mansion, No. 41, The 5th Avenue TEDA, Tianjin, China 300457 1 (86-22) 65288000 1 (86-22) 25295252 中国·天津市经济技术开发区第五大街41号SGS大厦

邮编: 300457 1 (86-22) 65288000 1 (86-22) 25295252



No. TSNEC1200272601

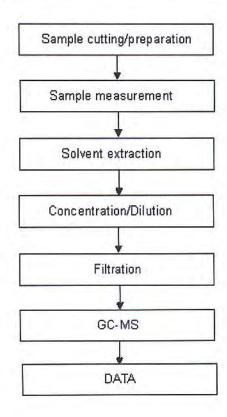
Date: 09 Apr 2012

Page 6 of 8

#### **ATTACHMENTS**

## **HBCDD Testing Flow Chart**

- 1) Name of the person who made testing: Marina Sun
- 2) Name of the person in charge of testing: Rex Zhu



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 itsolity in supply on 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 ingle centron only any within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not experted to a transaction force exercising all their plants and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. A company of the Company is a company of the Com

SGS Mansion, No.41, The 5th Avenue TEDA, Tianjin, China 300457 † (86-22) 65288000 † (86-22) 25295252



No. TSNEC1200272601

Date: 09 Apr 2012

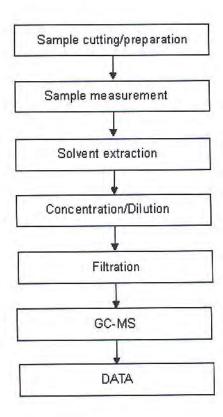
Page 7 of 8

### **ATTACHMENTS**

## Phthalate Testing Flow Chart

1) Name of the person who made testing: Marina Sun

2) Name of the person in charge of testing: Rex Zhu



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 formal 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 in appropriate or and jurisdiction issues defined therein. Any holder of this document is advised that information contained herson reflects the Company's findings at the time of its injurisdiction is used to the finding of the company's sole responsibility is to its Client and this document does not experies to a transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company, and contains the contains of the contains o

SGS Mansion, No.41, The 5th Avenue TEDA, Tianjin, China 300457 † (86-22) 65288000 † (86-22) 25295252 中国·天津市经济技术开发区第五大街41号SGS大厦



No. TSNEC1200272601

Date: 09 Apr 2012

Page 8 of 8

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.

In 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 of supplies to 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 interval of the supplies to an adjustication issues of client's instructions. If any, The Company's sole responsibility is to its Client and his document does not exported parties to a transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company, so the supplies of the su

SGS Mansion, No.41, The 5th Avenue TEDA, Tianjin, China 300457 t (86-22) 65288000 f (86-22) 25295252 中国·天津市经济技术开发区第五大街41号SGS大厦



No. TSNEC1200272602

Date: 09 Apr 2012

Page 1 of 4

BEIJING HYSTIC NEW MATERIALS CO., LTD. 5 SHUANGYUAN ROAD, BADACHU HIGH-TECH ZONE, BEIJING. 100041, CHINA

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

SGS Job No.:

TP12-004950 - TJ

Model No.:

**EP608** 

Date of Sample Received:

31 Mar 2012

Testing Period:

31 Mar 2012 - 09 Apr 2012

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.

Aimy Wang

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\_ang\_conditions. htm. and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="www.sgs.com/terms">www.sgs.com/terms</a> e-document.htm. Attention is drawn to the limitation of liability appropriate or and jurisdiction issues defined therein. Any holder of this document is advised that information contained nereon reflects the Company's findings at the time of its presention only says within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not experted perfect or a transaction documents. This document cannot be reproduced except in full without prior written approval of the Company. A consultance of the support of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless other repeated (the required of the fullest extent of the law.)



No. TSNEC1200272602

Date: 09 Apr 2012

Page 2 of 4

Test Results:

## Test Part Description:

Specimen No.

SGS Sample ID

Description

TSN12-002726.002

ivory-white paste

### 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).

<u>Unit</u>	MDL	002
mg/kg	50	57
mg/kg	50	7557
mg/kg	50	ND
mg/kg	50	ND
	mg/kg mg/kg mg/kg	mg/kg 50 mg/kg 50 mg/kg 50

Result shown is of the total weight of wet sample

This document is issued by the Company subject to its General Conditions of Service printed overlead, 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 and sputifies too 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 injury section 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 experted parties to a transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company are contained alterable, 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 Unlaws others are taked their except in full.

SGS Mansion.No.41,The 5th Avenue TEDA,Tianjin.China 300457 † (86-22) 65288000 † (86-22) 25295252 中国·天津市经济技术开发区第五大街41号SGS大厦

邮編: 300457 1 (86-22) 65288000 1 (86-22) 25295252



No. TSNEC1200272602

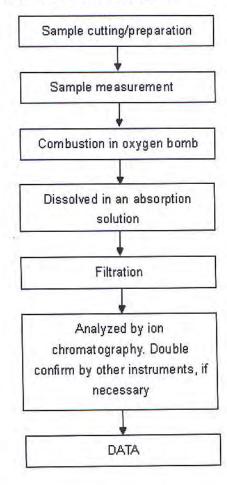
Date: 09 Apr 2012

Page 3 of 4

### **ATTACHMENTS**

## Halogen Testing Flow Chart

- 1) Name of the person who made testing: Angell Yao
- 2) Name of the person in charge of testing: Rex Zhu



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 in the participation is used defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention of the company's sole responsibility is to its Client and this document does not excentrate parties to a transaction of company its order the transaction documents. This document cannot be reproduced except in full without prior written approval of the Company for exercising all their clients and obligations under the transaction documents. This document cannot be reproduced except in full without prior written approval of the Company for exercising all their clients. The company is accompany to the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law unlawful are existed the results shown in this test report refer only to the sample(s) tested.

SGS Mansion, No.41, The 5th Avenue TEDA, Tianjin, China 300457 1 (86-22) 65288000 1 (86-22) 25295252 中国 - 天津市经济技术开发区第五大街41号SGS大厦 邮编: 300457 1 (86-22) 65288000 1 (86-22) 25295252



No. TSNEC1200272602

Date: 09 Apr 2012

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 in spurition 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 interest of the spurition 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 documents. This document cannot be reproduced except in full, without prior written approval of the Company. An exception of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law Unites of the results shown in this text report refer only to the sample(s) tested.

SGS Mansion, No. 41, The 5th Avenue TEDA, Tianjin, China 300457 t (86-22) 65288000 1 (86-22) 25295252 中国·天津市经济技术开发区第五大街41号SGS大厦

邮编: 300457 1 (86-22) 65288000 1 (86-22) 25295252



Test Report NO.: W02032011204D Date: 2012.02.07 Page 1 of 4

Applicant: SUZHOU XINWU OPTRONICT TECHNOLOGY CO.,LTD

Address: 368 YOUYI RD, YOUYI DEVELOPMENT AREA, SONGLING TOWN WUJIANG

SUZHOU, CHINA

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

Sample Name: BRASS

Manufacturer: SUZHOU XINWU OPTRONICT TECHNOLOGY CO.,LTD

Sample Description: SOLDER COATING ON Cu

Testing Part Description: MIX TESTED

Sample Received Date: 2012.02.03

Test Period: 2012.02.03 To 2012.02.07

Test Requested: In accordance with the RoHS Directive 2011/65/EU Annex II

Test Method: With reference to IEC62321 Edition 1.0 :2008 method: Regulated Substances

Content of test process with Electrical & Electronic Products

(1) Lead Analysis is performed by AAS(2) Cadmium Analysis is performed by AAS(3) Mercury Analysis is performed by ICP-OES

(4) Hexavalent Chromium Analysis is performed By Spot-test/Boiling-water-

extraction Method

(5) PBBs and PBDEs Analysis is performed by GC-MS

Test Result: Please refer to next page(s)

Approved by:

sharg daigen

Code: e5ptm0y6

PONY assures objectivity and justiness of the text, and fulfill, the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown and the sample of the text of the lample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal consequences because the use of testing result, or direct and indirect losses, and all legal responsibility because the use of testing result, or direct and indirect losses, and all legal responsibility because the use of testing result, or direct and indirect losses, and all legal responsibility because the use of testing result, or direct and indirect losses, and all legal responsibility because the use of testing result, or direct and indirect losses, and all legal responsibility because the use of testing result, or direct and indirect losses, and all legal r

www.ponytest.com & Hotline 400-819-5688

Adu: Tingzhi Building,No.49-3,Suzhou Building 35, No.680, Guiping Road, Xuhui Road,Haidian District, Beijing District, Shanghai

Tel: (010) 82618116 Fax: (010) 86219629 E-mail: pony@ponytest.com

TERA

District, Shanghai (021) 64851999 (021) 64856403 csh@ponytest.com Road, Nanshan District, Shenzhen (0755) 26050909 (0755) 26068336

sz@ponytest.com

Building 6 of Zhongxing Industry City, Chuangye



**Test Report** NO.: W02032011204D Date: 2012.02.07 Page 2 of 4

Test Result (Unit: ma/ka)

Test Item	MDL	Test Result	RoHS Limit
Lead (Pb)	1	N.D.	1000
Cadmium (Cd)	1	N.D.	100
Mercury (Hg)	1	N.D.	1000
Hexavalent Chromium (Cr <sup>6+</sup> )	See Note (6)	Negative	_
PBBs	_	— — — — — — — — — — — — — — — — — — —	1000
Bromobiphenyl	5	N.D.	
Dibromobiphenyl	5	N.D.	( ) <del>-</del> (
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.	_
PBDEs			1000
Bromodiphenyl 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.	1-1
Octabromodiphenyl ether	5	N.D.	
Nonabromodiphenyl ether	5	N.D.	L
Decabromodiphenyl ether	5	N.D.	I

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report refer only to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of apportover and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. Any unauthorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

www.ponytest.com & Hotline 400-819-5688

Add: Yingzhi Building, No. 49-3, Suzhou Building 35, No. 680, Guiping Road, Xuhui Road, Haidian District, Beijing District, Shanghai

(010) 82618116 (010) 86219629 Fax:

(021) 64851999 (021) 64856403 Building 6 of Zhongxing Industry City, Chuangye Road, Nanshan District, Shenzhen (0755) 26050909



NO.: W02032011204D

Date: 2012.02.07

Page 3 of 4

Note:

- (1) mg/kg = ppm
- (2) "-- " = Does not stipulate
- (3) N.D. = Not Detected (<MDL)
- (4) MDL = Method Detection Limit
- (5) The most allowable limit value reference to RoHS Directive 2011/65/EU Annex II
- (6) Spot-test:

Negative = Not Detected 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 cannot be confirmed or negative)

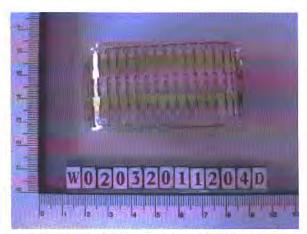
Boiling-water-extraction:

Negative = Not Detected 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 50cm<sup>2</sup> sample surface area used.

(7) The mixing sample test was performed as client's request. Result obtained only gives informality value and does not represent individual sample material.

### Photo:



Pony authenticate the photo on original report only

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report refer only to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of approver and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. Any unauthorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

www.ponytest.com & Hotline 400-819-5688

Add: Yingzhi Building,No.49-3,Suzhou Building 35, No.680, Guiping Road, Xuhui Road,Haidian District, Beijing District, Shanghai

Road, Haidian District, Beijing
Tel: (010) 82618116
Fax: (010) 86219629

E-mail: pony@ponytest.com

(021) 64851999 (021) 64856403 csh@ponytest.com Building 6 of Zhongxing Industry City, Chuangye Road, Nanshan District, Shenzhen (0755) 26050909 (0755) 26068336

sz@ponytest.com



NO.: W02032011204D

Date: 2012.02.07

Page 4 of 4

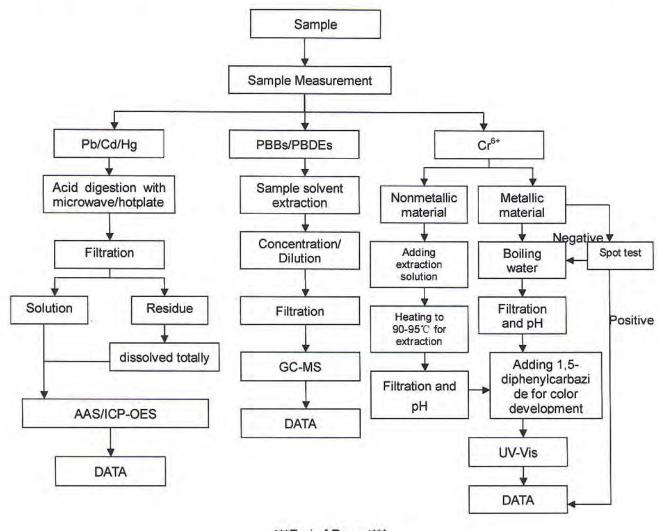
Measurement Flow-chart

Tested by: XuYing Checked by: Walter

Person in charge of the lab: Zhangdaiqin

These Samples Were Dissolved Totally By Pre-conditioning Method According To Below Flow Chart. (Cr6+

And PBBs/PBDEs Test Method Excluded)



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

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report refer only to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of apporover and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. Any unauthorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

## www.ponytest.com & Hotline 400-819-5688

Add: Yingzhi Building, No. 49-3, Suzhou Building 35, No. 680, Guiping Road, Xuhui

Road, Haidian District, Beijing
Tel: (010) 82618116
Fax: (010) 86219629

E-mail: pony@ponytest.com

District, Shanghai (021) 64851999 (021) 64856403

csh@ponytest.com

(0755) 26050909 (0755) 26068336 sz@ponytest.com

Building 6 of Zhongxing Industry City, Chuangye

Road, Nanshan District, Shenzhen



Test Report NO.: W02032011404D Date: 2012.02.07 Page 1 of 4

Applicant: SUZHOU XINWU OPTRONICT TECHNOLOGY CO.,LTD

Address: 368 YOUYI RD, YOUYI DEVELOPMENT AREA, SONGLING TOWN WUJIANG

SUZHOU, CHINA

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

Sample Name: Zn ALLOY

Manufacturer: SUZHOU XINWU OPTRONICT TECHNOLOGY CO.,LTD

Testing Part Description: MIX TESTED

Sample Received Date: 2012.02.03

Test Period: 2012.02.03 To 2012.02.07

Test Requested: In accordance with the RoHS Directive 2011/65/EU Annex II

Test Method: With reference to IEC62321 Edition 1.0 :2008 method: Regulated Substances

Content of test process with Electrical & Electronic Products

(1) Lead Analysis is performed by AAS

(2) Cadmium Analysis is performed by AAS

(3) Mercury Analysis is performed by ICP-OES

(4) Hexavalent Chromium Analysis is performed By Spot-test/Boiling-water-

extraction Method

(5) PBBs and PBDEs Analysis is performed by GC-MS

Test Result: Please refer to next page(s)

Approved by:

sharg dangen

Code: i43lblmq

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report of rough to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of apportover and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. An una chorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

www.ponytest.com & Hotline 400-819-5688

Building 6 of Zhongxing Industry City, Chuangye



NO.: W02032011404D

Date: 2012.02.07

Page 2 of 4

Test Result (Unit: mg/kg)

Test Item	MDL	Test Result	RoHS Limit
Lead (Pb)	1	N.D.	1000
Cadmium (Cd)	1	N.D.	100
Mercury (Hg)	1	N.D.	1000
Hexavalent Chromium (Cr6+)	See Note (6)	Negative	
PBBs			1000
Bromobiphenyl	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.	<del>-</del> -
PBDEs	_	-	1000
Bromodiphenyl ether	5	N.D.	-
Dibromodiphenyl ether	5	N.D.	<del></del>
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.	) <del>-</del>

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report refer only to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of approver and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. Any unauthorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

www.ponytest.com & Hotline 400-819-5688

Add: Yingzhi Building,No.49-3,Suzhou Building 35, No.680, Guiping Road, Xuhui Road,Haidian District, Beijing District, Shanghai

Tel: (010) 82618116 (02)
Fax: (010) 86219629 (02)
E-mail: pony@ponytest.com cst

District, Shanghai (021) 64851999 (021) 64856403 csh@ponytest.com

Building 6 of Zhongxing Industry City, Chuangye Road, Nanshan District, Shenzhen (0755) 26050909 (0755) 26068336

sz@ponytest.com



NO.: W02032011404D

Date: 2012.02.07

Page 3 of 4

Note:

- (1) mg/kg = ppm
- (2) "-- " = Does not stipulate
- (3) N.D. = Not Detected (<MDL)
- (4) MDL = Method Detection Limit
- (5) The most allowable limit value reference to RoHS Directive 2011/65/EU Annex II
- (6) Spot-test:

Negative = Not Detected 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 cannot be confirmed or negative)

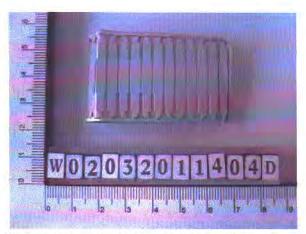
Boiling-water-extraction:

Negative = Not Detected 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 50cm<sup>2</sup> sample surface area used.

(7) The mixing sample test was performed as client's request. Result obtained only gives informality value and does not represent individual sample material.

#### Photo:



Pony authenticate the photo on original report only

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report refer only to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of approver and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. Any unauthorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

www.ponytest.com & Hotline 400-819-5688

Add: Yingzhi Building, No. 49-3, Suzhou Building 35, No. 680, Guiping Road, Xuhui Road, Haidian District, Beijing District, Shanghai

Road, Haidian District, Beijing Tel: (010) 82618116 Fax: (010) 86219629

E-mail: pony@ponytest.com

(021) 64851999 (021) 64856403 csh@ponytest.com Building 6 of Zhongxing Industry City, Chuangye Road, Nanshan District, Shenzhen (0755) 26050909 (0755) 26068336

sz@ponytest.com



NO.: W02032011404D

Date: 2012.02.07

Page 4 of 4

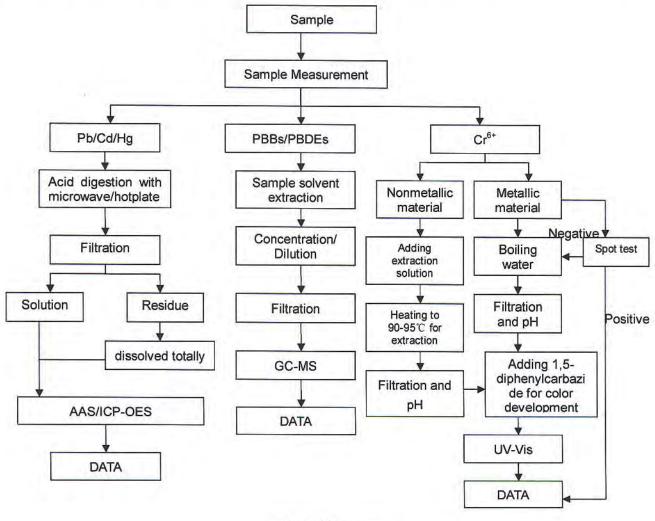
Measurement Flow-chart

Tested by: XuYing Checked by: Walter

Person in charge of the lab: Zhangdaiqin

These Samples Were Dissolved Totally By Pre-conditioning Method According To Below Flow Chart. (Cr6+

And PBBs/PBDEs Test Method Excluded)



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

PONY assures objectivity and justness of the test, and fulfill the duty of confidentiality for applicant's information. Applicant should undertake responsibility for the authenticity of submitted sample and information. Unless otherwise stated the results shown in the report refer only to the sample(s) tested. PONY shall not have any economic and legal responsibility because the use of testing result, or direct and indirect losses, and all legal consequences because of the result. This report is invalid without signatures of approver and special seal for inspection of PONY, or it has been reproduced in full or part. This Report is issued by PONY subject to its General Conditions of Service. Any unauthorized alteration, forgery or falsification of the content is unlawful, offenders may be prosecuted to the fullest extent of the law.

### www.ponytest.com & Hotline 400-819-5688

Add: Yingzhi Building, No. 49-3, Suzhou Building 35, No. 680, Guiping Road, Xuhui District, Shanghai

Road, Haidian District, Beijing Tel: (010) 82618116

(010) 86219629

(021) 64851999 (021) 64856403 Building 6 of Zhongxing Industry City, Chuangye Road, Nanshan District, Shenzhen (0755) 26050909