

Company name:

ICP Test Report Certification Packet

Littelfuse, Inc.

Product Series:	5x20 Cartridge Fuse	e
Product #:	218xxxXP Series	
Issue Date:	December 15, 2012	
2011/65/EU)-restricted supacking/packaging materi In addition, it is hereby re	ubstance nor such us als, and for additives a ported to you that the p packaging materials, a	ere is neither RoHS (EU Directive 2002/95/EC, se, for materials to be used for unit parts, for and the like in the manufacturing processes. Dearts and sub-materials, the materials to be used and the additives and the like in the manufacturing emponents.
	Issued by:	KRISTEEN BACILA
		<global ehs="" engineer=""></global>
(1) Parts, sub-materials a This document cov Littelfuse, Inc.	•	phs-Compliant series products manufactured by
< Raw Materials U Please see Tab		
(2) The ICP data on all r	neasurable substance ropriate pages as iden	
Remarks :		



Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	C910541/C910510	Сар	3-6
2	C909543 (C09529)	Body – Soda Lime Glass tube	7-11
	11-0595		
3	(082xxx-001)	Element – Cu99.9MSn	12-18
4	082xxx	Element – Ag Plated Copper	19-23
5	687xxx-001	Element – Sn Plated Ag Cu	24-29
6	N/A	Tinned Wires	30-34
7	YTW102 (692539-002)	Solder Wire	35-39
8	3M 3779-PG (087244)	HMA – RoHS & Halogen	40-46
9	C030204	Overcap	47-50
10	934-077 (C030208)	Overcap	47-50
11	C030210	Overcap	47-50
12	648901	Ceramic Yarn	51-59
13	425901	Ink-Red	60-70
14	425902	Ink-Black	71-81
15	425903	Ink-Yellow	82-92
16	425904	Ink-Blue	93-103
17	425906	Ink-Brown	104-114
18	425907	Ink-Green	115-125
19	425909	Ink-Grey	126-136
20	425912	Ink-White	137-146



TEST REPORT

NO.: A002R121008024-1R02

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: Copper shell

Model: /

Item/Lot No.: /

Material: /

Buyer: / Supplier: /

Manufacturer: /

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

Wang Wexin, Weikin

Technical Director

Approved by:

Yuan Qi, Mickey

Lab Manager



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



out sample

TEST REPORT

NO.: A002R121008024-1R02 Date: Oct.10, 2012 Page 2 of 4 Test Flow: 1. To Determine Lead, Cadmium Content: (Metal substrate) Tested by: ondul Add the digestion solution; the Weigh the sample into 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) ondu 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 Tested by Weigh the plating-Report



Instrument

filled to the mark with DI water.



TEST REPORT

NO.: A002R121008024-1R02

Date: Oct.10, 2012

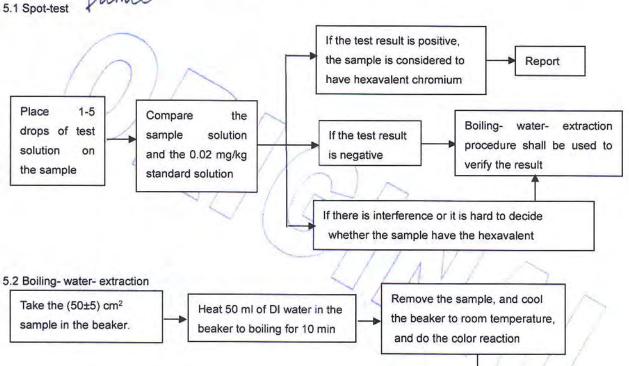
Page 3 of 4

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

Sample Description:

Code	Sample Description
1-1	Substrate
1-2	Plating

Test Results:

Item	Unit	RoHS Limit	Results		
			1-1	1-2**	
Lead (Pb)	mg/kg	1000	N.D.	10	
Cadmium (Cd)	mg/kg	100	N.D.	N.D.	
Mercury (Hg)	mg/kg	1000	N.D.	N.D.	
Chromium (CrVI)	mg/kg	1000	Negative	Negative	





TEST REPORT

NO.: A002R121008024-1R02

Date: Oct.10, 2012

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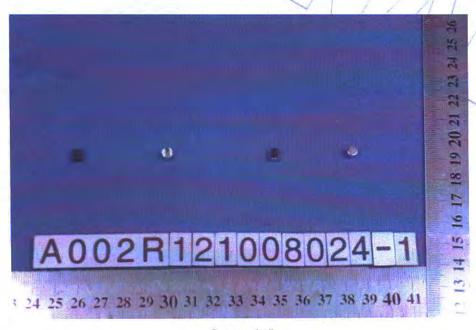
Note:

- -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





No. CANEC1207912201

Date: 26 Jun 2012

Page 1 of 5

XIAMEN LICHUN ELECTRONIC ELEMENT CO.,LTD 42-2XINGLIN WEST RD.,361022,JIMEI DISTRICT,XIAMEN,,FUJIAN,P.R.C

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

SGS Job No.:

XM13901119EC - XM

Date of Sample Received:

18 Jun 2012

Testing Period:

18 Jun 2012 - 26 Jun 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.

Lucy Wu

Approved Signatory

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No. CANEC1207912201

Date: 26 Jun 2012

Page 2 of 5

Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description

CAN12-079122.001 Trans

Transparent glass tube

Remarks:

1

(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)	<u>Limit</u>	<u>Unit</u>	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	229
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	4	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	0-1	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	2.1	mg/kg	5	ND
Heptabromobiphenyl	35	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	r i je	mg/kg	5	ND
Decabromobiphenyl	Q.	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	(-)	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Report	No. CANEC12079122	01	Date: 26	Jun 2012	Page 3 of 5
Test Item(s)	Limit	<u>Unit</u>	MDL	<u>001</u>	
Dibromodiphenyl ether	4	mg/kg	5	ND	
Tribromodiphenyl ether	(a)	mg/kg	5	ND	
Tetrabromodiphenyl ether		mg/kg	5	ND	
Pentabromodiphenyl ether	2	mg/kg	5	ND	
Hexabromodiphenyl ether	2	mg/kg	5	ND	
Heptabromodiphenyl ether	77	mg/kg	5	ND	
Octabromodiphenyl ether	*	mg/kg	5	ND	
Nonabromodiphenyl ether	u ž o.	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

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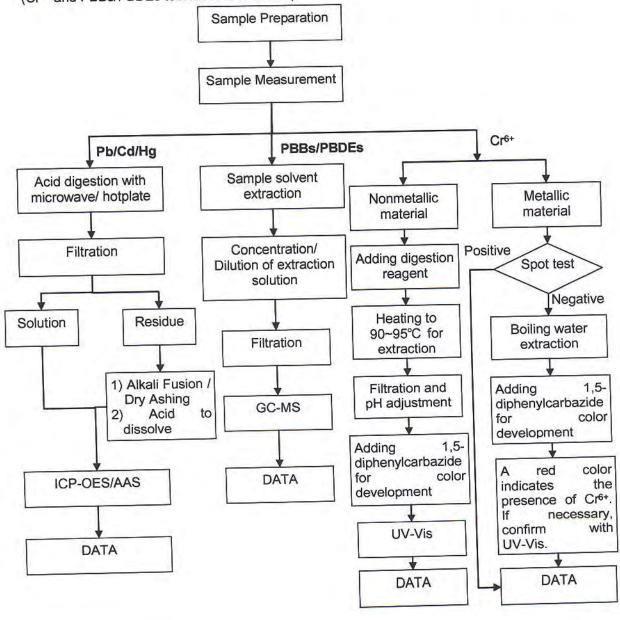
Date: 26 Jun 2012

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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 (Cr6+ and PBBs/PBDEs test method excluded).



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Sample photo:



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Test Report

No.: CE/2011/B4950

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

: Cu99.9MSn

Buyer/Order No.

: 11-0595

Sample Receiving Date

: 2011/11/25

Testing Period

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

Test Result(s)

: Please refer to next page(s).



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No.: CE/2011/B4950

Date: 2011/12/01

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POLYFIL AG

OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND

Test Result(s)

PART NAME No.1

: SILVER COLORED METAL WIRE (INCLUDING THE PLATING LAYER)

Toot Itom(a)	Unit	Mothed	MDL	Result
Test Item(s)	Unit	Method	MDL	No.1
Cadmium (Cd)	mg/kg	N	2	n.d.
Lead <mark>(</mark> Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	24
Mercu <mark>r</mark> y (Hg)	mg/kg	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			1.47	n.d.
Mono <mark>b</mark> romobiphenyl			5	n.d.
Dibro <mark>m</mark> obiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexa <mark>b</mark> romobiphenyl		l F	5	n.d.
Heptabromobiphenyl			5	n.d.
Octab <mark>romobiphenyl</mark>			5	n.d.
Nona <mark>b</mark> romobiphenyl			5	n.d.
Deca <mark>b</mark> romobiphenyl	mallea	With reference to IEC 62321: 2008 and	5	n.d.
Sum of PBDEs	mg/kg	performed by GC/MS.	-	n.d.
Monopromodiphenyl ether			5	n.d.
Dibromodiphenyl ether		I I	5	n.d.
Tribromodiphenyl ether		1	5	n.d.
Tetrabromodiphenyl ether		1 - 17	5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether		1 1	5	n.d.
Octabromodiphenyl ether		1	5	n.d.
Nonabromodiphenyl ether		I f	5	n.d.
Decapromodiphenyl ether			5	n.d.

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

Test Item(s)	Unit	Unit Method		Result
	Onic	Wethod	MDL	No.1
Halogen		T a sale of the sa		
Halogen-Fluorine (F) (CAS No.: 14762-94-8)			50	n.d.
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)		With reference to BS EN 14582:2007.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	Analysis was performed by IC.	50	n.d.
Halog <mark>en-lodine (I)</mark> (CAS No.: 14362-44-8)			50	n.d.

Note

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

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

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.

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Test Report Page: 4 of 7 Date: 2011/12/01 No.: CE/2011/B4950 POLYFIL AG OBERALLMENDSTRASSE 20A, CH-6300 ZUG / SWITZERLAND 1) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr6+ test method excluded) 2) Name of the person who made measurement: Climbgreat Yang 3) Name of the person in charge of measurement: Troy Chang Cutting / Preparation Sample Measurement Hg Pb · Cd Acid digestion by suitable acid Microwave digestion with Add appropriate amount depended on different sample HNO₃/HCI/HF digestion reagent material (as below table) Filtration Heat to appropriate temperature to extract Residue Solution Cool, filter digestate Alkali Fusion through filter HCI to dissolve ICP-AES Add diphenyl-carbazide for color development Digestion Acid Sample Material Agua regia, HNO₃, HCl, HF, H₂O₂ Steel, copper, aluminum, solder measure the absorbance HNO₃/HF Glass at 540 nm by UV-VIS Gold, platinum, palladium, ceramic Aqua regia HNO₃ Silver H₂SO₄, H₂O₂, HNO₃, HCI Plastic Any acid to total digestion Others

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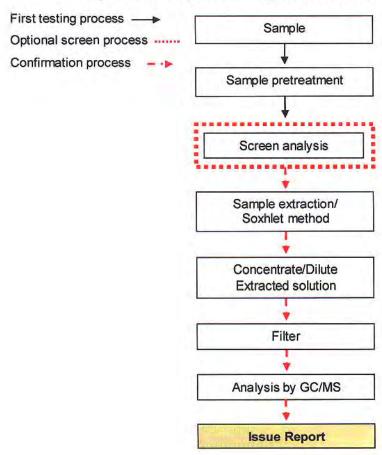
Page: 5 of 7

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



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No.: CE/2011/B4950

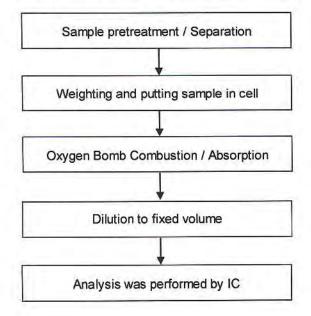
Date: 2011/12/01

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



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No.: CE/2011/B4950

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/B4950



** End of Report **

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Test Report Number: TWNC00249179

Applicant: Littelfuse Philippines Inc.

Date : Mar 28, 2012

LIMA Technology Center, Lipa City,

Malvar, Batangas

Sample Description:

One (1) group of submitted samples said to be:
Part Description : Silver plated Wire

Part Number : DRAGxxx

Date Sample Received : Mar 22, 2012 Date Test Started : Mar 22, 2012

Test Conducted:

As requested by the applicant, for details please refer to attached pages.

Authorized By: On Behalf Of Intertek Testing Services Taiwan Limited



K. Y. Liang
Director

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Page 1 of 5



Test Conducted

(I) Test Result Summary :

,	
Togt Itom	Result (ppm)
Test Item	Submitted Samples
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content (mg/kg with 50cm ²)	Negative (< 0.02)

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

ND = Not detected
< = Less than</pre>

mg/kg with 50cm² = milligram per kilogram with 50 square centimetre Negative = A negative test result indicated positive observation was not found at the time of Test.

Responsibility of Chemist : Irene Chiou / Kevin Liu / Cathy Chen

Date Sample Received : Mar 22, 2012

Test Period : Mar 22, 2012 To Mar 27, 2012

(II) RoHS Requirement:

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

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



Test Conducted

(Ⅲ) Test Method:

Test Item	Test 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 ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis Spectrophotometer.	0.02 mg/kg with 50cm ²

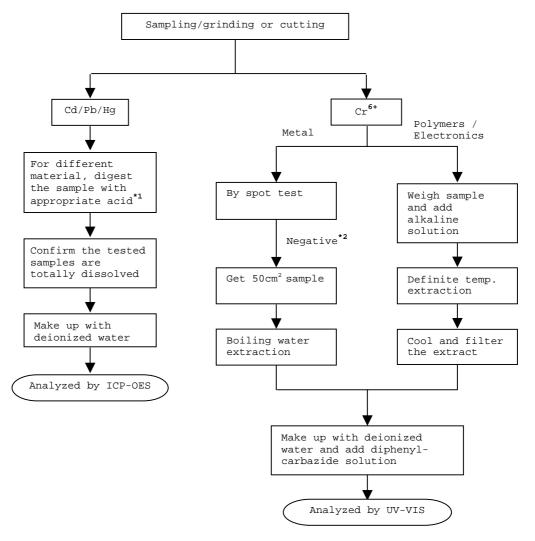
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

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



Remarks:

*1: List Of Appropriate Acid:

erbe of hepropriace hera	
<u>Material</u>	Acid Added For Digestion
Polymers	HNO _{3,} HCl,HF,H ₂ O _{2,} H ₃ BO ₃
Metals	HNO _{3,} HCl,HF
Electronics	HNO ₃ ,HCl,H ₂ O ₂ ,HBF ₄

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

End of Report

Page 4 of 5

Intertek Testing Services Taiwan Ltd.



Test Conducted

Photo







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Tel: +86 21 6120 6565 Fax: +86 21 6127 9740 www.intertek.com www.intertek.com.cn China Toll-Free: 800 999 1338

TEST REPORT

NUMBER: SHAH00300757

DATE: FEB 02, 2012

APPLICANT: LITTELFUSE, INC.

800 E. NORTHWEST HWY

ATTN: A. CESISTA/ K. BACILA

SAMPLE DESCRIPTION:

One(1) submitted sample said to be Wire with plating.

Part Description : Wire(Polyil).
Part Number : 687279-001.
Date Sample Received : Jan.17, 2012.
Date Test Started : Jan.17, 2012.

TESTS CONDUCTED:

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

To Be Continued

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

wy

MYRA LV CHEMICAL LAB SENIOR MANAGER AUTHORIZED BY:

FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN GENERAL MANAGER



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TEST REPORT

NUMBER: SHAH00300757

TESTS CONDUCTED

(I) Test Result Summary :

Testing Item	Result (ppm) (1)		
Heavy Metal			
Cadmium (Cd) content	ND		
Lead (Pb) content	ND		
ercury (Hg) content ND			
Chromium VI (Cr ⁶⁺) content (mg/kg with 50cm ²)	Negative (< 0.02)(#)		

Togting Itom	Result (ppm)		
<u>Testing Item</u>	(2)		
Heavy Metal			
Cadmium (Cd) content/Plating	ND		
Lead (Pb) content/Plating 72			
Mercury (Hg) content/Plating	ND		
Chromium VI (Cr ⁶⁺) content (mg/kg with 50cm ²)/Plating	Negative (< 0.02)(#)		

Tested components:

- (1) Substrate
- (2) Plating

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

= Due to the insufficient sample area, reduced total sample surface of 10 cm2 was used and the dilution factor was adjusted accordingly.

mg/kg with 50cm² = milligram per kilogram with 50 square centimetre

Negative = A negative test result indicated positive observation was not found at the time of testing.

Responsibility Of Chemist : Dent Fang / Ken He

Date Sample Received : Jan.17, 2012 Testing Period : Jan.21, 2012



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TEST REPORT NUMBER: SHAH00300757

TESTS CONDUCTED

(II) RoHS Requirement:

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

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

(Ⅲ) Test Method:

Testing Item	Testing 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	
With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.		2 ppm	
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis spectrophotometer.	0.02 mg/kg with 50cm ²	



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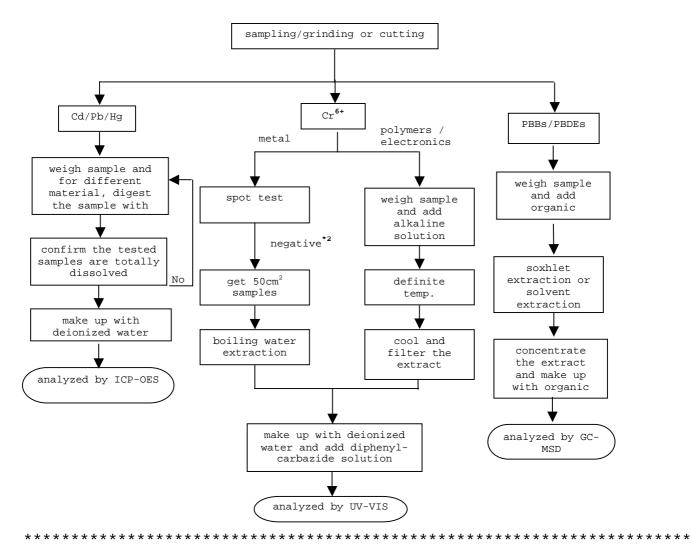
TEST REPORT

NUMBER: SHAH00300757

TESTS CONDUCTED

(IV) Measurement Flowchart:

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





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TEST REPORT NUMBER: SHAH00300757

TESTS CONDUCTED REMARKS:

*1: List of appropriate acid:

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

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



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NUMBER: SHAH00300757

TEST REPORT



End Of Report



Test Report Number: TWNC00249180

Applicant: Littelfuse Philippines Inc.

Date : Mar 28, 2012

LIMA Technology Center, Lipa City,

Malvar, Batangas

Sample Description:

One (1) group of submitted samples said to be :

Part Description : Tinned Wire
Part Number : DRCUxxx
Date Sample Received : Mar 22, 2012
Date Test Started : Mar 22, 2012

Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director

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Page 1 of 5



Test Conducted

(I) Test Result Summary :

Togt Itom	Result (ppm)		
<u>Test Item</u>	Silvery Metal Wire		
Heavy Metal			
Cadmium (Cd) content	ND		
Lead (Pb) content	17		
Mercury (Hg) content	ND		
Chromium VI (Cr^{6+}) content (mg/kg with $50cm^2$)	Negative (< 0.02)		

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

ND = Not detected
< = Less than</pre>

mg/kg with 50cm² = milligram per kilogram with 50 square centimetre Negative = A negative test result indicated positive observation was not found at the time of Test.

Responsibility of Chemist : Irene Chiou / Kevin Liu / Cathy Chen

Date Sample Received : Mar 22, 2012

Test Period : Mar 22, 2012 To Mar 28, 2012

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits	
Cadmium (Cd) Content	0.01% (100ppm)	
Lead (Pb) Content	0.1% (1000ppm)	
Mercury (Hg) Content	0.1% (1000ppm)	
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)	

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



Test Conducted

(Ⅲ) Test Method:

Test Item	Test 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 ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis Spectrophotometer.	0.02 mg/kg with 50cm ²

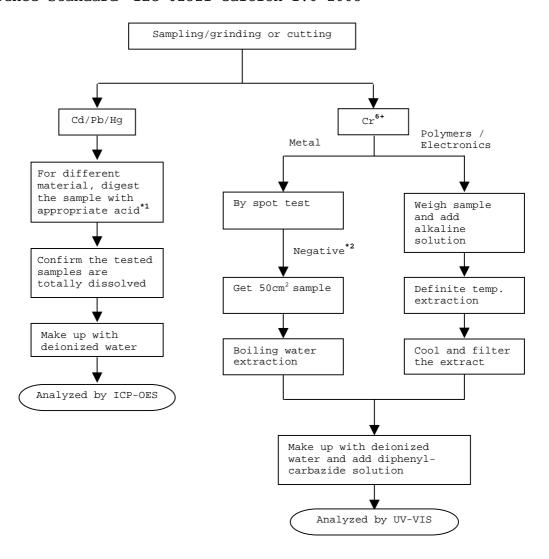
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

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



Remarks:

*1: List Of Appropriate Acid:

<u>Material</u>	Acid Added For Digestion
Polymers	HNO _{3,} HCl,HF,H ₂ O _{2,} H ₃ BO ₃
Metals	HNO _{3,} HCl,HF
Electronics	HNO _{3,} HCl,H ₂ O _{2,} HBF ₄

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

End of Report



Test Conducted

Number : TWNC00249180

Photo







No. SHAEC1216714750

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):

YTW102 (692539-002)

Composition:

Sn2.0CuRE

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

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No. SHAEC1216714750

Date: 25 Sep 2012

Page 2 of 5

Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description SHA12-167147.043 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	043
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	168
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	\Q	Negative
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	4	mg/kg	5	ND
Tribromobiphenyl	*	mg/kg	5	ND
Tetrabromobiphenyl	4	mg/kg	5	ND
Pentabromobiphenyl	2	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	- 2	mg/kg	5	ND
Nonabromobiphenyl	=	mg/kg	5	ND
Decabromobiphenyl	2	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Report	No. SHAEC121671475	50	Date: 25	Sep 2012	Page 3 of 5
Test Item(s)	<u>Limit</u>	<u>Unit</u>	MDL	<u>043</u>	
Dibromodiphenyl ether	The state of the s	mg/kg	5	ND	
Tribromodiphenyl ether	Sian .	mg/kg	5	ND	
Tetrabromodiphenyl ether	(*)	mg/kg	5	ND	
Pentabromodiphenyl ether	, i	mg/kg	5	ND	
Hexabromodiphenyl ether	4	mg/kg	5	ND	
Heptabromodiphenyl ether	4	mg/kg	5	ND	
Octabromodiphenyl ether	-	mg/kg	5	ND	
Nonabromodiphenyl ether		mg/kg	5	ND	
Decabromodiphenyl ether	-	mg/kg	5	ND	

Notes:

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

Negative = Absence of 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.

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No. SHAEC1216714750

Date: 25 Sep 2012

Page 4 of 5

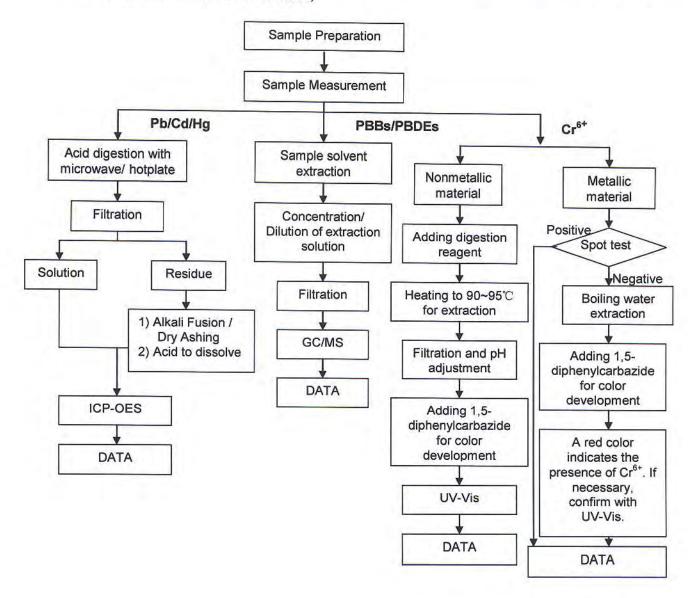
ATTACHMENTS

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. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



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No. SHAEC1216714750

Date: 25 Sep 2012

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Sample photo:



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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

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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	27	mg/kg	5	ND
Tribromobiphenyl	14	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	1.2	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether		mg/kg	5	ND

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e eqs.chine@sqs.com



Test Report	No. SHAEC12199754	01	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.

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Test Report

SGS

No. SHAEC1219975401

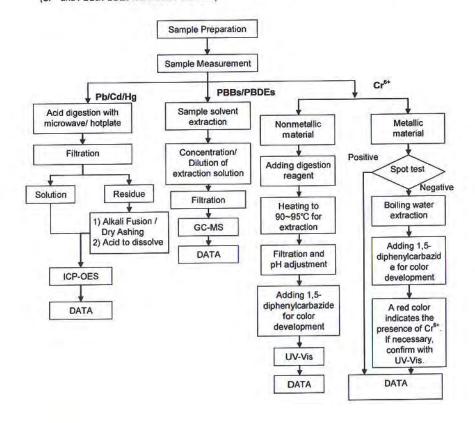
Date: 19 Nov 2012

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)



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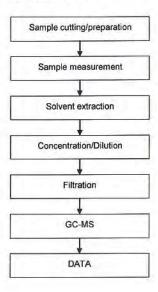
No. SHAEC1219975401

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



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Test Report

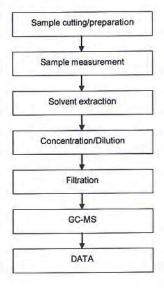
No. SHAEC1219975401

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



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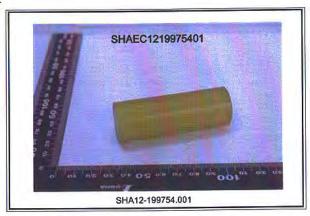


No. SHAEC1219975401

Date: 19 Nov 2012

Page 7 of 7

Sample photo:



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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

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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

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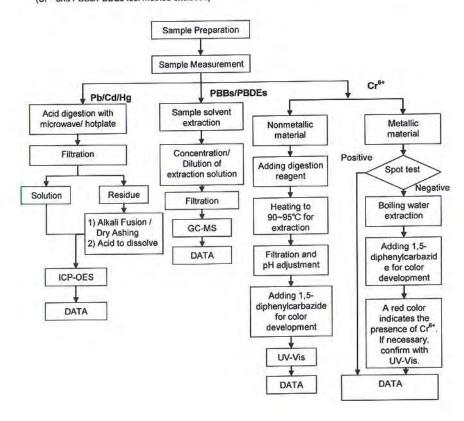
Date: 19 Nov 2012

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)



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Test Report

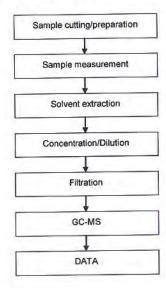
No. SHAEC1219975401

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



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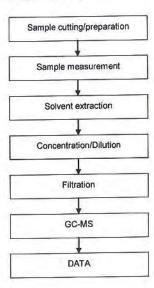
No. SHAEC1219975401

Date: 19 Nov 2012

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HBCDD Testing Flow Chart

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



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Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 6 of 6

Sample photo:



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TEST REPORT

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

^{-* 0.02} 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



TEST REPORT

NO.: A002R121008024-2R02

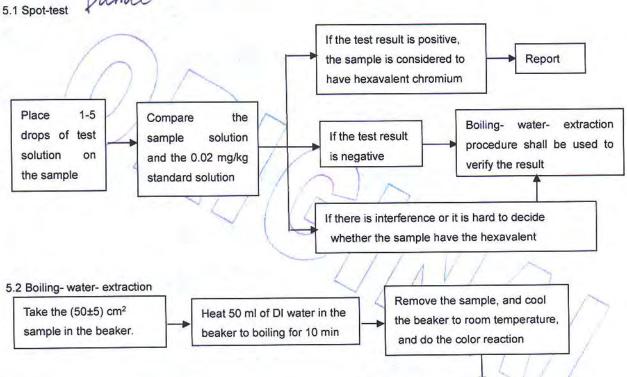
Date: Oct.10, 2012

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		Re	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	





TEST REPORT

NO.: A002R121008024-2R02

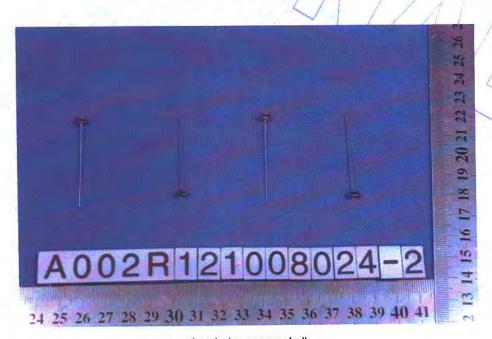
Date: Oct.10, 2012

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





Block B, Jinling Business Square,No.801 Yi Shan Road, Shanghai, China, 200233

Tel: +86 21 6120 6565 Fax: +86 21 6127 9740 www.intertek.com www.intertek.com.cn China Toll-Free: 800 999 1338

TEST REPORT

NUMBER: SHAH00299962

DATE: JAN 18, 2012

APPLICANT: LITTELFUSE, INC.

800 E. NORTHWEST HWY

ATTN: A. CESISTA/ K. BACILA

SAMPLE DESCRIPTION:

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

Part Description : YARN.
Part Number : 648901.

Date Sample Received : Jan.11, 2012.

Date Test Started : Jan.11, 2012.

TESTS CONDUCTED:

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

TO BE CONTINUED

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

YVVJ

MYRA LV CHEMICAL LAB SENIOR MANAGER AUTHORIZED BY:

FOR INTERTEK TESTING SERVICES

LTD., SHANGHAI

STEPHEN TSANG GENERAL MANAGER



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TEST REPORT NUMBER: SHAH00299962

TESTS CONDUCTED

1 (I) Test Result Summary:

Testing Item	Result (ppm)
Halogen Content	
Fluorine (F)	820
Chlorine (Cl)	ND
Bromine (Br)	ND
Iodine (I)	ND

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

mg/kg

ND = Not detected

Responsibility Of Chemist : Ken He

(II) Test Method:

Testing Item	Testing Item Testing Method	
Halogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm



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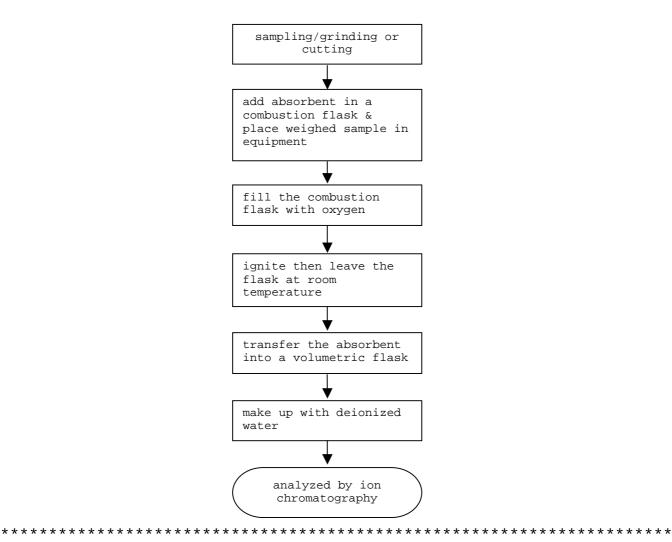
TEST REPORT

NUMBER: SHAH00299962

TESTS CONDUCTED

(III) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



TO BE CONTINUED

PAGE 3 OF 9



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TEST REPORT NUMBER: SHAH00299962

TESTS CONDUCTED

2 (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 ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND



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TEST REPORT NUMBER: SHAH00299962

TESTS CONDUCTED

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Dent Fang / Ken He

(II) RoHS Requirement:

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

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



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TEST REPORT

NUMBER: SHAH00299962

TESTS CONDUCTED (III) Test Method:

Testing Item	Testing 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 ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

DATE SAMPLE RECEIVED : JAN.11, 2012

TESTING PERIOD : JAN.11, 2012 TO JAN.13, 2012



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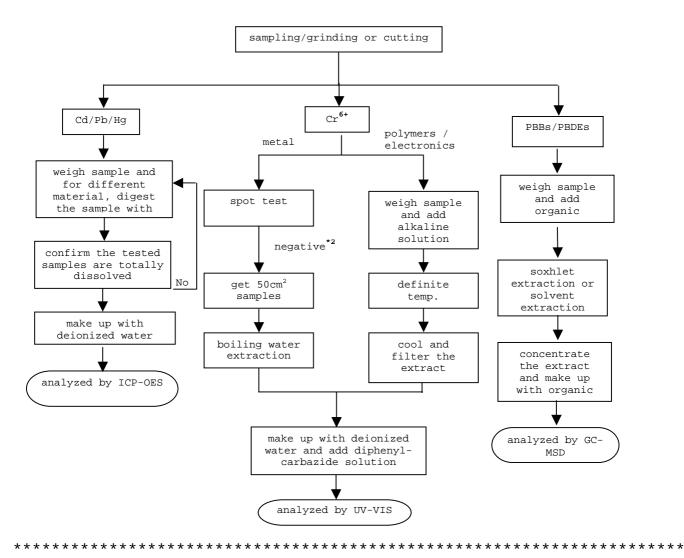
NUMBER: SHAH00299962

TEST REPORT

TESTS CONDUCTED

(IV) Measurement Flowchart:

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





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TEST REPORT

NUMBER: SHAH00299962

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

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

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



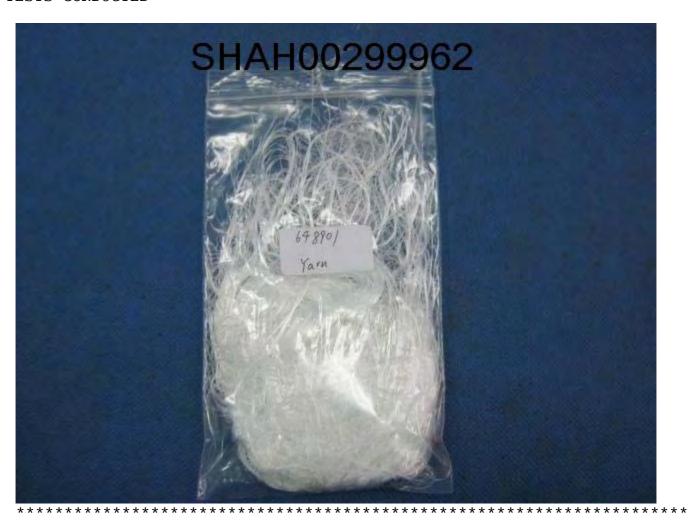
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NUMBER: SHAH00299962

TEST REPORT

TESTS CONDUCTED



END OF REPORT



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



TEST REPORT

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 ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	·
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

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

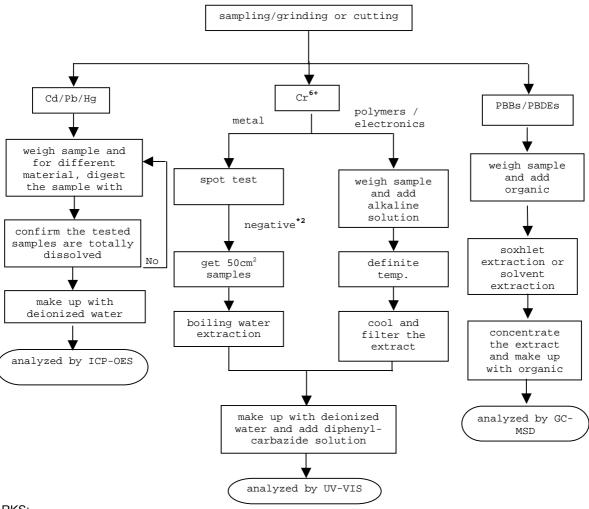
Remark: Reporting limit = Quantitation limit of analyte in sample



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 _{3,} HCI,HF,H ₂ O _{2,} H ₃ BO ₃
Metals HNO	_{3,} HCl,HF
Electronics H	NO ₃ ,HCl,H ₂ O ₂ ,HBF ₄

*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

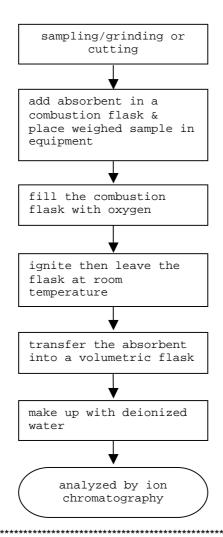
Remark: Reporting limit = Quantitation limit of analyte in sample



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



TEST REPORT

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>	<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.19, 2012

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

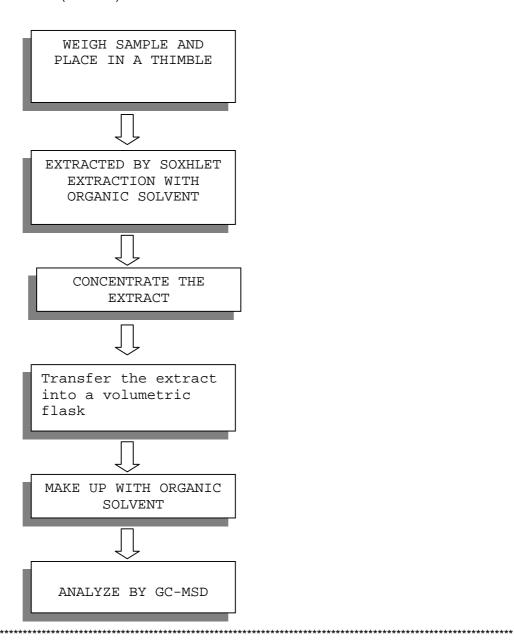


TEST REPORT

NUMBER: SH AH00346635

TESTS CONDUCTED MEASUREMENT FLOWCHART:

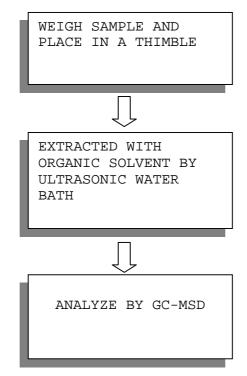
TEST FOR PHTHALATES CONTENTS (EN14372)





TESTS CONDUCTED MEASUREMENT FLOWCHART:

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





TESTS CONDUCTED



END OF REPORT

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APPLICANT: LITTELFUSE,INC. DATE:

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

OCT 29, 2012

AUTHORIZED BY: FOR INTERTEK TESTING SERVICES LTD., SHANGHAI

JACOB LIN

GENERAL MANAGER



TEST REPORT

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 ⁶⁺) content	ND		
Polybrominated Biphenyls (PBBs)			
Monobrominated Biphenyls (MonoBB)	ND		
Dibrominated Biphenyls (DiBB)	ND		
Tribrominated Biphenyls (TriBB)	ND		
Tetrabrominated Biphenyls (TetraBB)	ND		
Pentabrominated Biphenyls (PentaBB)	ND		
Hexabrominated Biphenyls (HexaBB)	ND		
Heptabrominated Biphenyls (HeptaBB)	ND		
Octabrominated Biphenyls (OctaBB)	ND		
Nonabrominated Biphenyls (NonaBB)	ND		
Decabrominated Biphenyl (DecaBB)	ND		
Polybrominated Diphenyl Ethers (PBDEs)			
Monobrominated Diphenyl Ethers (MonoBDE)	ND		
Dibrominated Diphenyl Ethers (DiBDE)	ND		
Tribrominated Diphenyl Ethers (TriBDE)	ND		
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND		
Pentabrominated Diphenyl Ethers (PentaBDE)	ND		
Hexabrominated Diphenyl Ethers (HexaBDE)	ND		
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND		
Octabrominated Diphenyl Ethers (OctaBDE)	ND		
Nonabrominated Diphenyl Ethers (NonaBDE)	ND		
Decabrominated Diphenyl Ether (DecaBDE)	ND		

NUMBER: SH

AH00345635

(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 ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

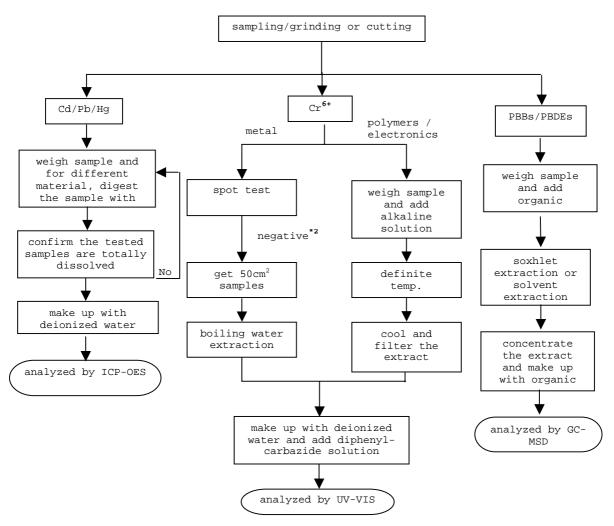
Reporting limit = Quantitation limit of analyte in sample Remark:



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 _{3,} HCl,HF,H ₂ O _{2,} H ₃ BO ₃
Metals HNO	3,HCI,HF
Electronics H	NO _{3,} HCI,H ₂ O _{2,} HBF ₄

*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

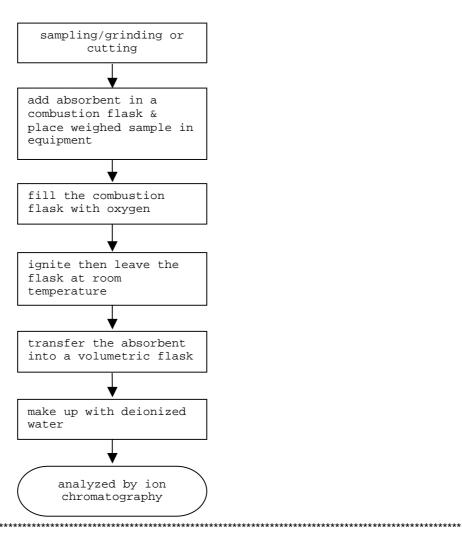
AH00345635



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 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 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

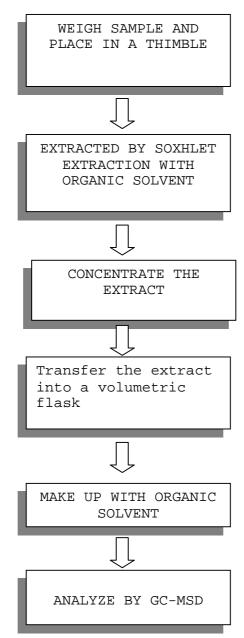


NUMBER: SH AH00345635

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

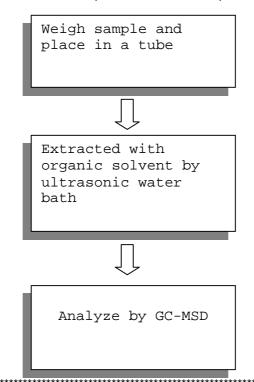




TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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





TESTS CONDUCTED

NUMBER: SH AH00345635

SHAH00345635

END OF REPORT

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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 ⁶⁺) content	ND	
Polybrominated Biphenyls (PBBs)		
Monobrominated Biphenyls (MonoBB)	ND	
Dibrominated Biphenyls (DiBB)	ND	
Tribrominated Biphenyls (TriBB)	ND	
Tetrabrominated Biphenyls (TetraBB)	ND	
Pentabrominated Biphenyls (PentaBB)	ND	
Hexabrominated Biphenyls (HexaBB)	ND	
Heptabrominated Biphenyls (HeptaBB)	ND	
Octabrominated Biphenyls (OctaBB)	ND	
Nonabrominated Biphenyls (NonaBB)	ND	
Decabrominated Biphenyl (DecaBB)	ND	
Polybrominated Diphenyl Ethers (PBDEs)		
Monobrominated Diphenyl Ethers (MonoBDE)	ND	
Dibrominated Diphenyl Ethers (DiBDE)	ND	
Tribrominated Diphenyl Ethers (TriBDE)	ND	
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND	
Pentabrominated Diphenyl Ethers (PentaBDE)	ND	
Hexabrominated Diphenyl Ethers (HexaBDE)	ND	
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND	
Octabrominated Diphenyl Ethers (OctaBDE)	ND	
Nonabrominated Diphenyl Ethers (NonaBDE)	ND	
Decabrominated Diphenyl Ether (DecaBDE)	ND	

NUMBER: SH

AH00345662

(III) Test Method:

eporting Limit
se 8/9/10, totally 2 ppm
se 8/9/10, totally 2 ppm
se 7, by ally 2 ppm
ex C, by photometer. 1 ppm
ex A, by urther 5 ppm
ex A, by urther 5 ppm

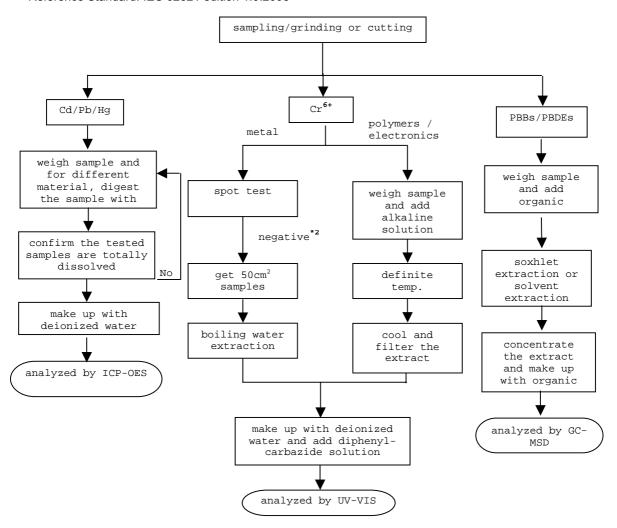
Reporting limit = Quantitation limit of analyte in sample Remark:



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 ₃ ,HCl,HF,H ₂ O ₂ ,H ₃ BO ₃
Metals HNO	_{3,} HCl,HF
Electronics H	NO _{3,} HCI,H ₂ O _{2,} HBF ₄

*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

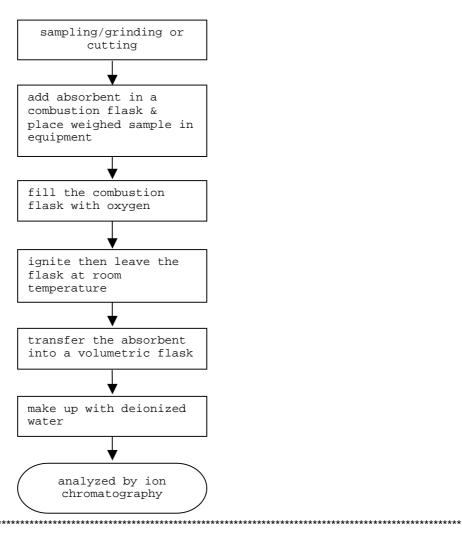
Remark: Reporting limit = Quantitation limit of analyte in sample



TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345662



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



NUMBER: SH AH00345662

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

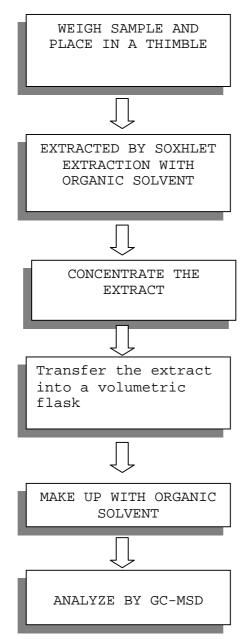
TESTING PERIOD : OCT.15, 2012 TO OCT.19, 2012



TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)



TO BE CONTINUED

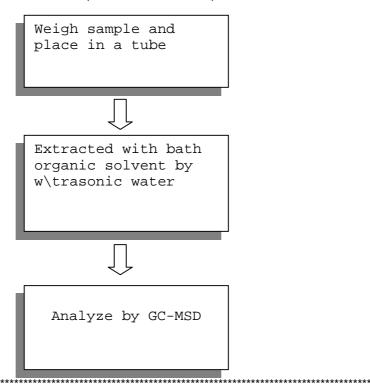
NUMBER: SH AH00345662



TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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





TESTS CONDUCTED

NUMBER: SH AH00345662



END OF REPORT

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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 ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

(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 ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm

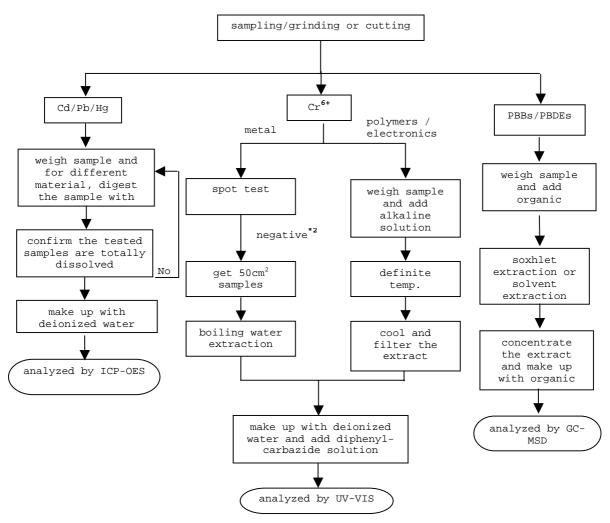
Remark: Reporting limit = Quantitation limit of analyte in sample



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 ₃ ,HCl,HF,H ₂ O ₂ ,H ₃ BO ₃
Metals HNO	_{3,} HCl,HF
Electronics H	NO_3 , HCI , H_2O_2 , HBF_4

*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

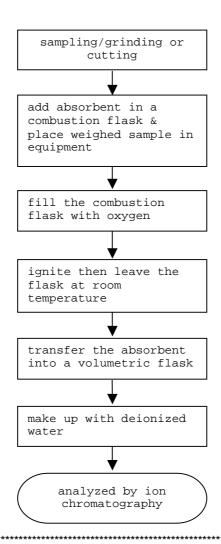
Remark: Reporting limit = Quantitation limit of analyte in sample



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)	TEST	MET	LHUD	
1	(D)	ILOI	IVIC I	טטחו	

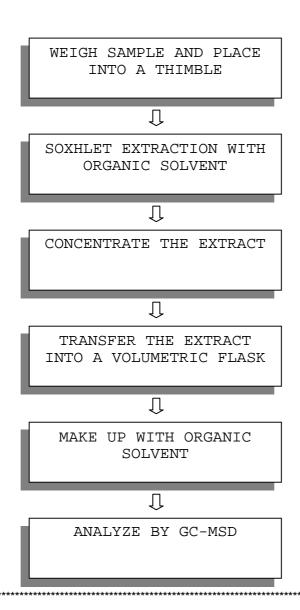
TESTING ITEM T	_ESTING METHOD	REPORTING LIMIT
THRUD (HEXARROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



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

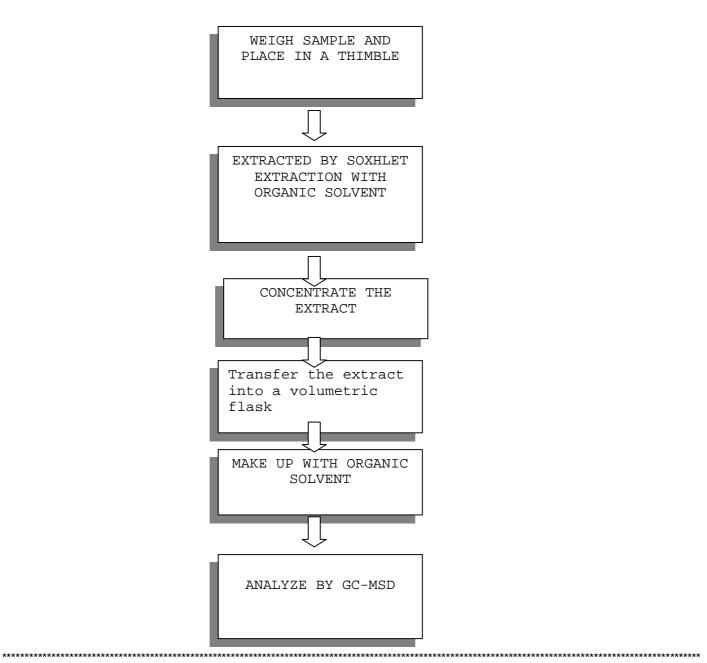


MEASUREMENT FLOWCHART:

TEST REPORT

TESTS CONDUCTED

TEST FOR PHTHALATES CONTENTS (EN14372)



NUMBER: SH

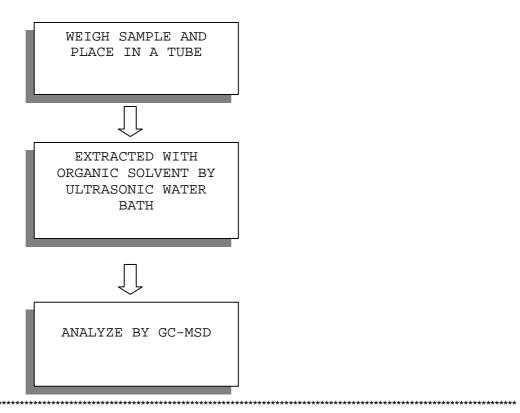
AH00345415



NUMBER: SH AH00345415

TESTS CONDUCTED MEASUREMENT FLOWCHART:

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





NUMBER: SH AH00345415

TESTS CONDUCTED



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DATE:

OCT 29, 2012

APPLICANT: LITTELFUSE, INC.

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

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **BROWN INK.** PART DESCRIPTION INK-BROWN. PART NUMBER 425906.

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

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 ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

(III) Test Method:

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

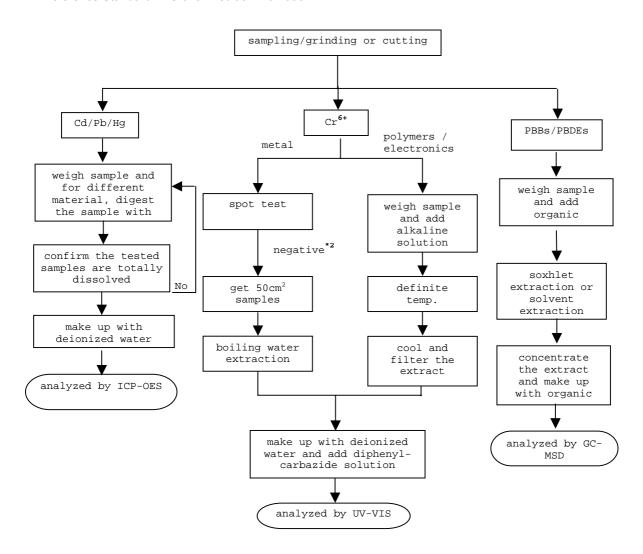
Reporting limit = Quantitation limit of analyte in sample Remark:



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 _{3,} HCl,HF,H ₂ O _{2,} H ₃ BO ₃
Metals HNO	_{3,} HCl,HF
Electronics H	NO _{3,} HCl,H ₂ O _{2,} HBF ₄

*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		1
Fluorine (F)		ND
Chlorine (CI)		8600
Bromine (Br)		ND
lodine (I)		ND

Remarks: ppm = Parts per million = mg/kg

Ν D = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

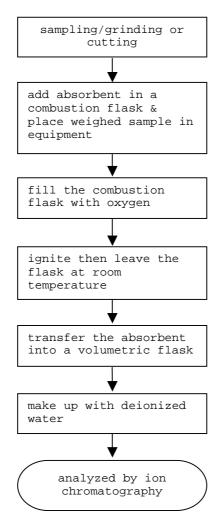
Reporting limit = Quantitation limit of analyte in sample Remark:



TESTS CONDUCTED

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

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345432



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



NUMBER: SH AH00345432

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 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 (FORMERLY KNOWN AS

DIRECTIVE 2005/84/EC) FOR PHTHALATE CONTENT IN TOYS AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

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 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

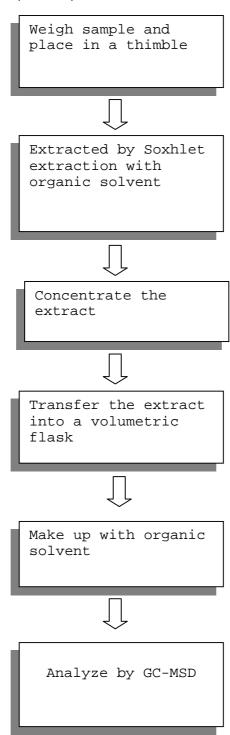
TESTING PERIOD: OCT.15, 2012 TO OCT.23, 2012



NUMBER: SH AH00345432

TESTS CONDUCTED MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

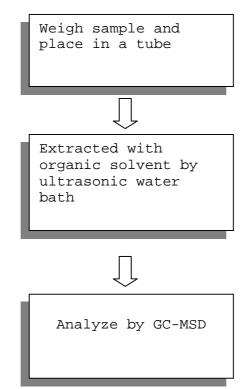




NUMBER: SH AH00345432

TESTS CONDUCTED MEASUREMENT FLOWCHART:

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





TESTS CONDUCTED



END OF REPORT

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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 ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	·
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

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

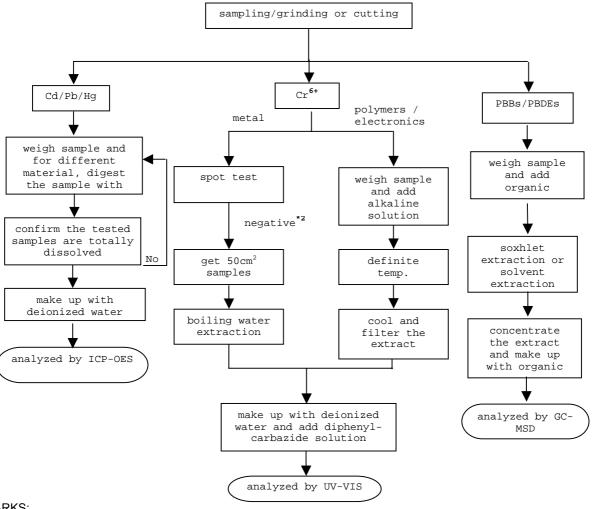
Remark: Reporting limit = Quantitation limit of analyte in sample



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 ₃ ,HCl,HF,H ₂ O ₂ ,H ₃ BO ₃
Metals HNO	3,HCI,HF
Electronics H	NO ₃ ,HCl,H ₂ O ₂ ,HBF ₄

*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

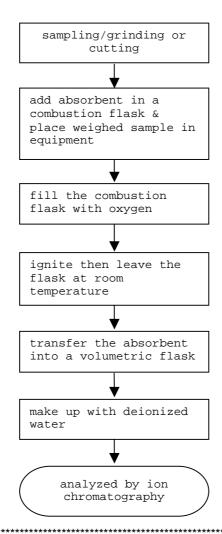
Remark: Reporting limit = Quantitation limit of analyte in sample



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

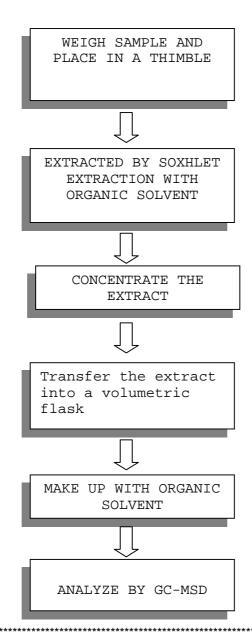


NUMBER: SH AH00345639

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)



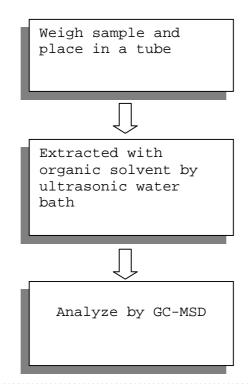


NUMBER: SH AH00345639

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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





TESTS CONDUCTED

NUMBER: SH AH00345639



END OF REPORT

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DATE:

OCT 26, 2012

APPLICANT: LITTELFUSE, INC.

800 E. NORTHWEST HWY

ΑT A.DIVIETRO/D.UNTIEDT

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE: GREY INK. PART DESCRIPTION INK-GREY. PART NUMBER 425909.

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

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 ⁶⁺) content	ND	
Polybrominated Biphenyls (PBBs)		
Monobrominated Biphenyls (MonoBB)	ND	
Dibrominated Biphenyls (DiBB)	ND	
Tribrominated Biphenyls (TriBB)	ND	
Tetrabrominated Biphenyls (TetraBB)	ND	
Pentabrominated Biphenyls (PentaBB)	ND	
Hexabrominated Biphenyls (HexaBB)	ND	
Heptabrominated Biphenyls (HeptaBB)	ND	
Octabrominated Biphenyls (OctaBB)	ND	
Nonabrominated Biphenyls (NonaBB) ND		
Decabrominated Biphenyl (DecaBB) ND		
Polybrominated Diphenyl Ethers (PBDEs)		
Monobrominated Diphenyl Ethers (MonoBDE)	ND	
Dibrominated Diphenyl Ethers (DiBDE)	ND	
Tribrominated Diphenyl Ethers (TriBDE)	ND	
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND	
Pentabrominated Diphenyl Ethers (PentaBDE)	ND	
Hexabrominated Diphenyl Ethers (HexaBDE)	ND	
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND	
Octabrominated Diphenyl Ethers (OctaBDE)	ND	
Nonabrominated Diphenyl Ethers (NonaBDE)	ND	
Decabrominated Diphenyl Ether (DecaBDE)	ND	

(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

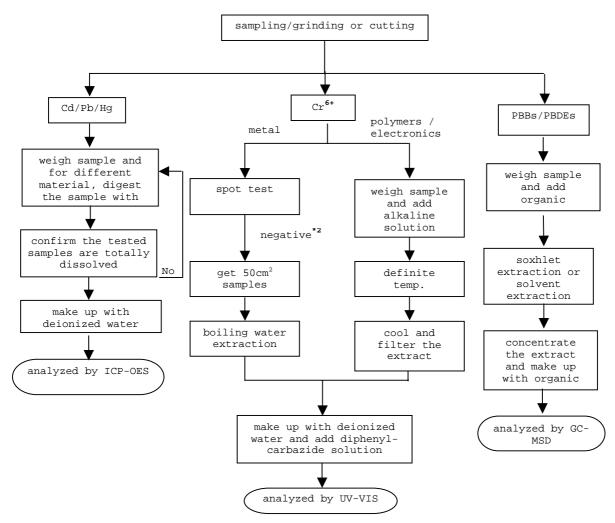
Remark: Reporting limit = Quantitation limit of analyte in sample



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 ₃ ,HCl,HF,H ₂ O ₂ ,H ₃ BO ₃
Metals HNO	_{3,} HCl,HF
Electronics H	NO _{3.} HCI,H ₂ O _{2.} HBF ₄

*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)	ND
Bromine (Br)	ND
lodine (I)	ND

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

Ν = Not detected D

Responsibility Of Chemist : Ken He

(III) Test Method:

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

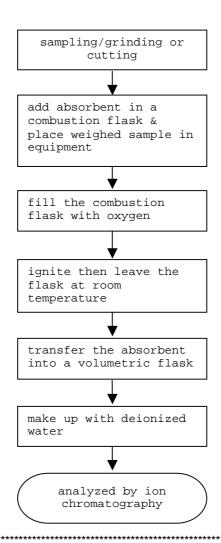
Remark: Reporting limit = Quantitation limit of analyte in sample



TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345659



NUMBER: SH AH00345659

3 (A) TEST RESULT SUMMARY:

TESTS CONDUCTED

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

REMARKS:

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

(B) TEST METHOD:

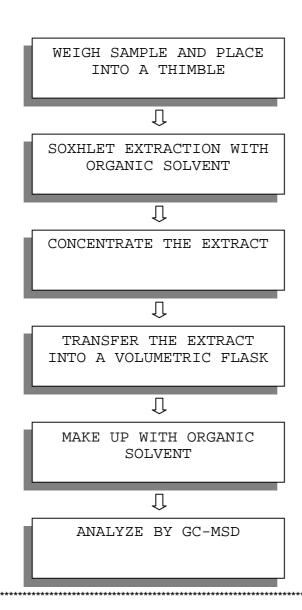
	TESTING ITEM T	_ESTING METHOD	REPORTING LIMIT
HBCD (HE)	(ABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm



NUMBER: SH AH00345659

TESTS CONDUCTED MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT





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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

NUMBER: SH AH00345659

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 FOR PROHIBITION ON SALE OF CERTAIN PRODUCTS CONTAINING

SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)

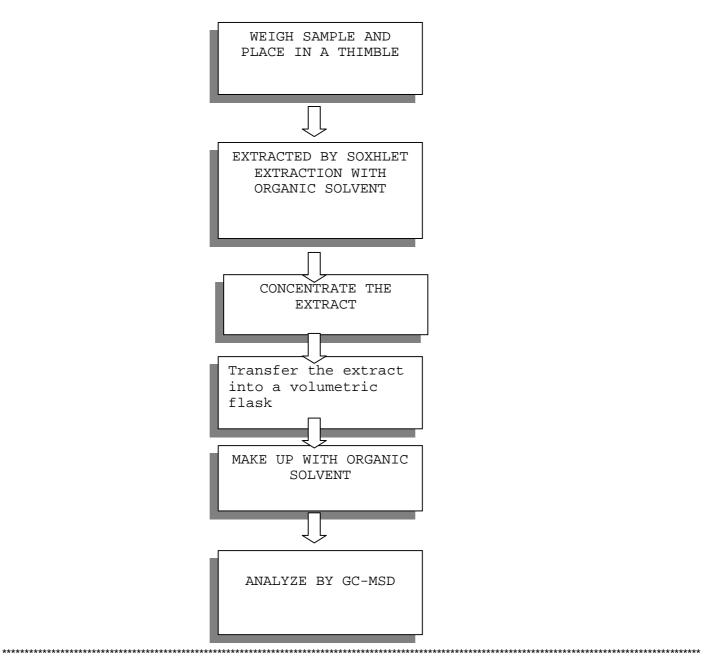
ND = NOT DETECTED



NUMBER: SH AH00345659

TESTS CONDUCTED MEASUREMENT FLOWCHART:

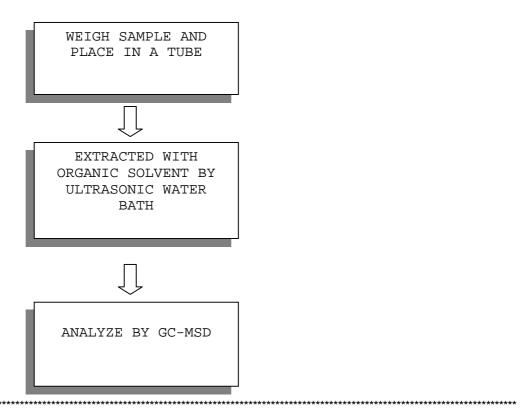
TEST FOR PHTHALATES CONTENTS (EN14372)





TESTS CONDUCTED MEASUREMENT FLOWCHART:

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



NUMBER: SH

AH00345659



TESTS CONDUCTED



END OF REPORT

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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 WHITE INK. PART DESCRIPTION INK-WHITE. PART NUMBER 425912.

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

1. (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 ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	
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)	
Octabrominated Diphenyl Ethers (OctaBDE)	
Nonabrominated Diphenyl Ethers (NonaBDE)	
Decabrominated Diphenyl Ether (DecaBDE)	ND

(III) Test Method:

(III) Test Method.		
Testing Item T	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
J (J)	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
icaramilim viaca i canieni	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

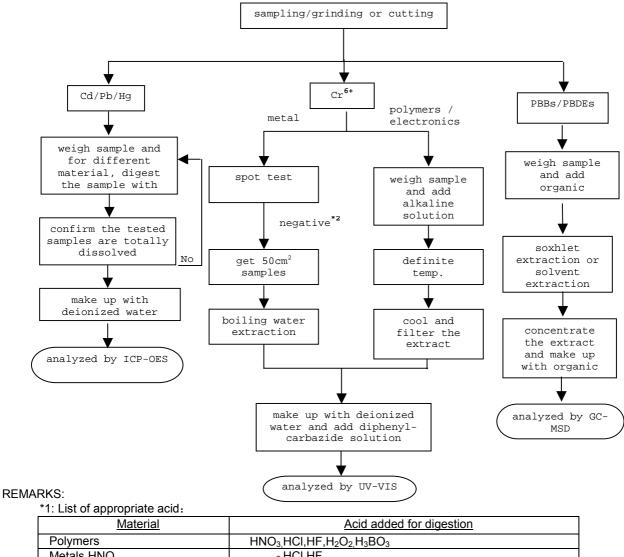
Remark: Reporting limit = Quantitation limit of analyte in sample



TESTS CONDUCTED

(IV) Measurement Flowchart:

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



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

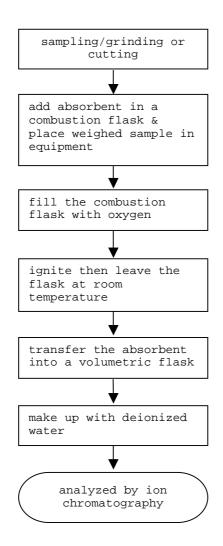
^{*2:} If the result of spot test is positive, Chromium VI would be determined as detected.



TESTS CONDUCTED

(IV) Measurement Flowchart:

> Test For Halogen Content Reference Standard: EN 14582



NUMBER: SH

AH00345436

2. (I) Test Result Summary :

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

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

ND = Not detected

Responsibility Of Chemist : Ken He



TESTS CONDUCTED

(III) Test Method:

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

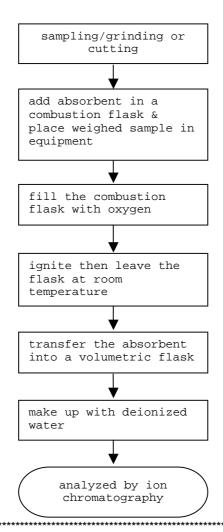
NUMBER: SH

AH00345436

Remark: Reporting limit = Quantitation limit of analyte in sample

(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:

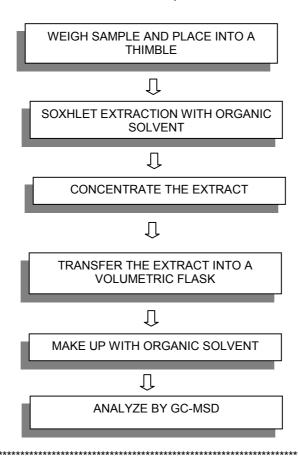
ppm = PARTS PER MILLION = mg/kg ND = NOT DETECTED

(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

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT



TO BE CONTINUED

4. PHTHALATE CONTENT TEST

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

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TESTS CONDUCTED

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 (FORMERLY KNOWN AS DIRECTIVE

2005/84/EC) FOR PHTHALATE CONTENT IN TOYS AND CHILDREN CARE ARTICLES.

DETECTION LIMIT = 0.01%(W/W)

ND = NOT DETECTED

5. PHTHALATE 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)

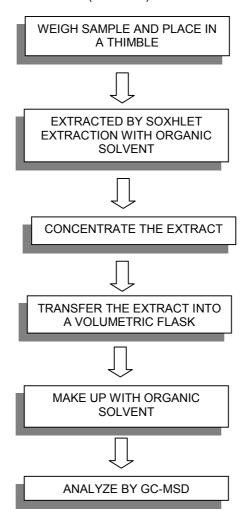
ND = NOT DETECTED



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TESTS CONDUCTED MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN 14372)

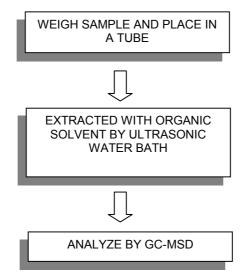




TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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



DATE SAMPLE RECEIVED: OCT.15, 2012 TESTING PERIOD: OCT.15, 2012 TO OCT.22, 2012



NUMBER: SH AH00345436



END OF REPORT

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