



ICP Test Report Certification Packet

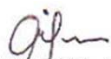
Company name: Littelfuse, Inc.

Product Series: 5x20 Cartridge Fuse

Product #: 217P Series

Issue Date: September 7, 2013

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC, 2011/65/EU)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes. In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by: 
JORDANUFF H. CABILAN

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the 5x20 Fuse Rohs-Compliant series products manufactured by Littelfuse, Inc.

< Raw Materials Used
Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks :

Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	C910541	Cap	3-6
2	C910510	Cap	3-6
3	C909543	Body – Soda Lime Glass	7-11
4	082xxx	Element - Ag Plated Wires	12-16
5	687xxx	Element – Copper Cladded Wires	17-21
6	YTW206 (692529)	Solder	22-26
7	YTW102 (692535-002)	Solder	27-31
8	3M-3779-PG (087244)	HMA (RoHS & Halogens)	32-38
9	EP608 (087335)	Glue (RoHS & Halogens)	39-49
10	030204	Overcap (Cap base & plating) Overcap (Cap wire base & plating)	50-53
13	425901	Ink - Red	54-64
14	425902	Ink - Black	65-75
15	425903	Ink - Yellow	76-86
16	425904	Ink - Blue	87-97
17	425906	Ink - Brown	98-108
18	425907	Ink - Green	109-119
19	425909	Ink - Grey	120-130
20	425913	Ink - Pale Blue	131-141

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:

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

Conclusion:

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

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

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

Project Leader: Maggie

Li Tingting, Maggie
Chemical Test Director

Reviewed by: Weikin

Wang Wexin, Weikin
Technical Director

Approved by: Mickey

Yuan Qi, Mickey
Lab Manager

TEST REPORT

NO.: A002R121008024-1R02

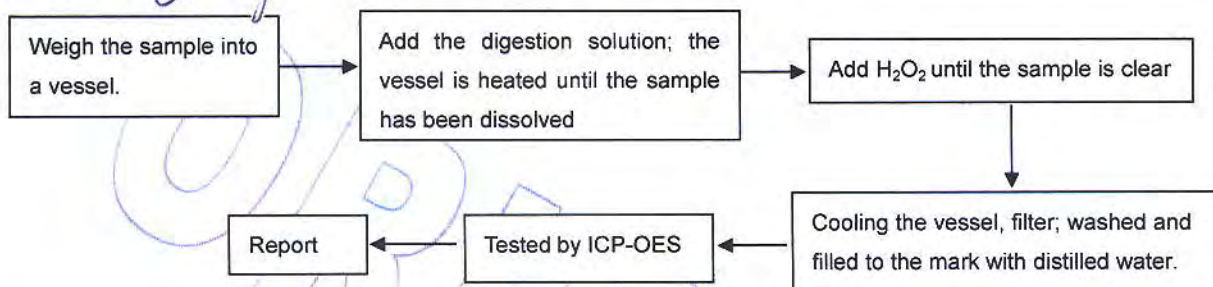
Date: Oct.10, 2012

Page 2 of 4

Test Flow:

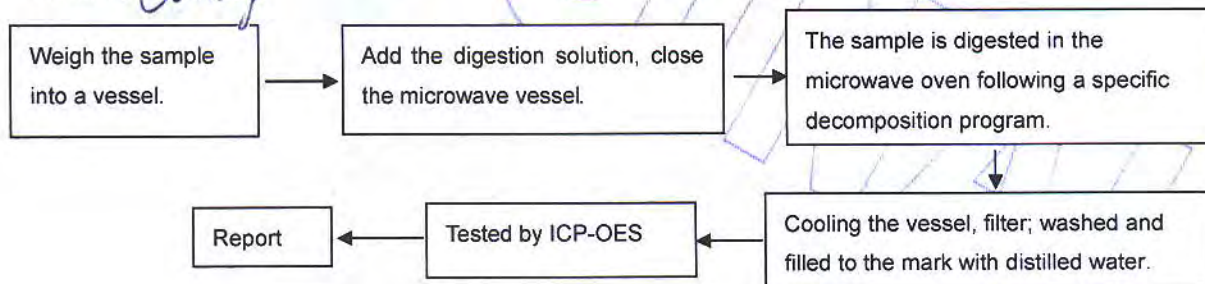
1. To Determine Lead, Cadmium Content: (Metal substrate)

Tested by: *Condy*



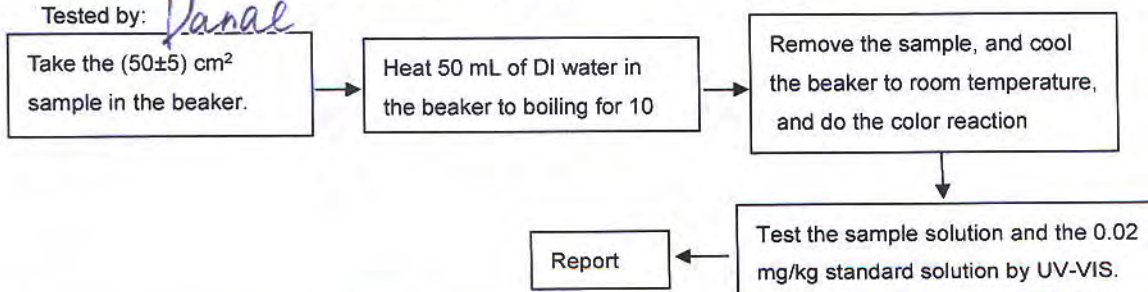
2. To Determine Mercury Content: (Metal substrate)

Tested by: *Condy*



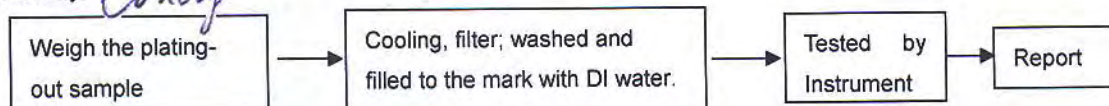
3. To Determine Hexavalent Chromium Content (boiling- water- extraction): (Metal substrate)

Tested by: *Danae*



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

Tested by: *Condy*



TEST REPORT

NO.: A002R121008024-1R02

Date: Oct.10, 2012

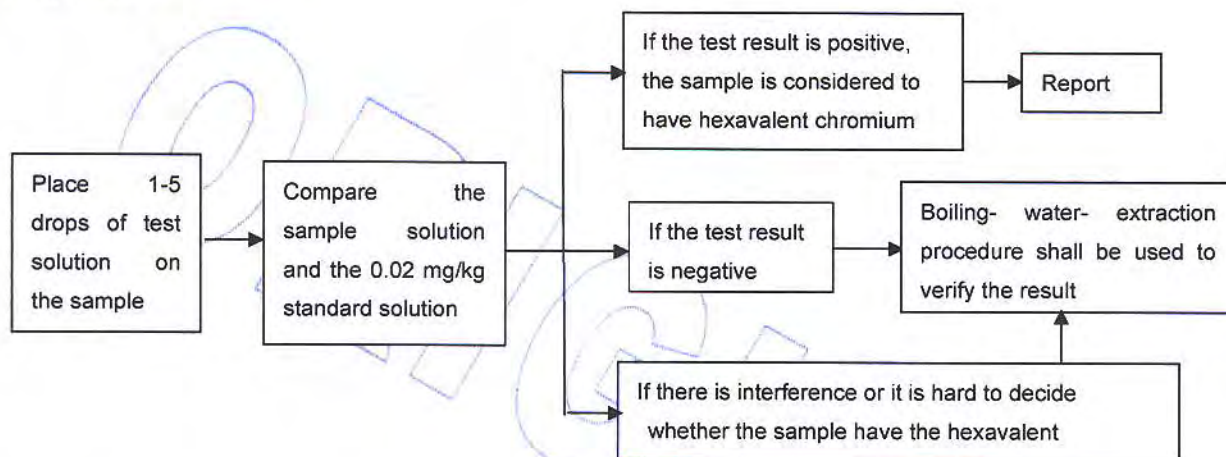
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5. To Determine Hexavalent Chromium Content in colorless and colored chromate coating on metals: (Plating)

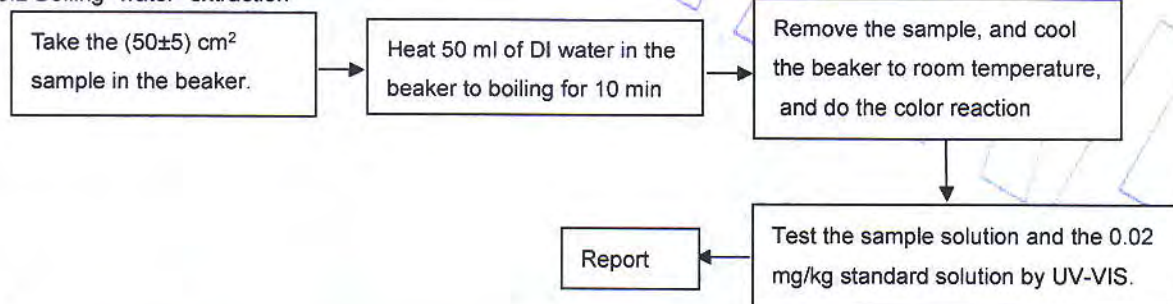
Tested by:

Danae

5.1 Spot-test



5.2 Boiling- water- extraction



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);

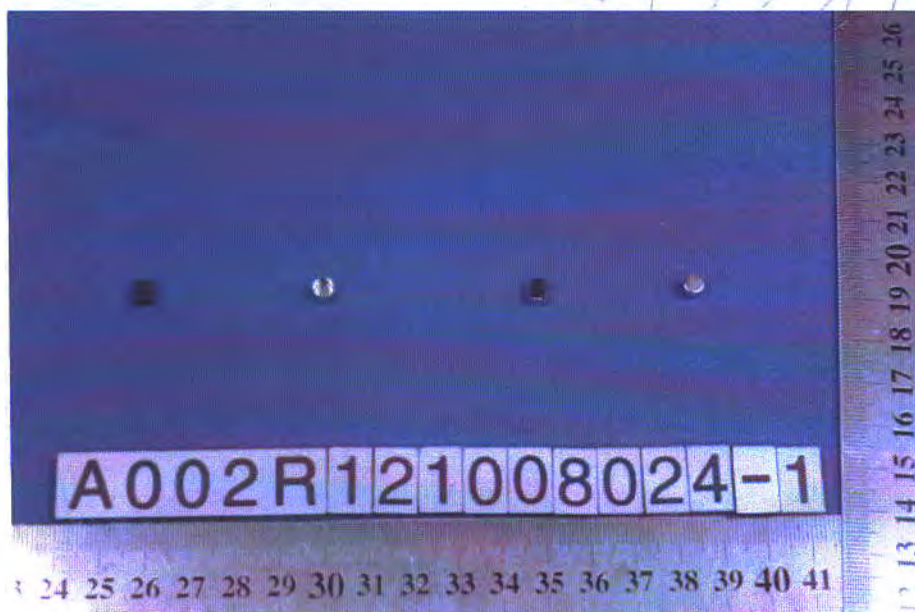
Uncertain= can not verify whether the sample have Hexavalent Chromium by spot-test.

(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



Test Report

No. CANEC1309150301

Date: 24 Jun 2013

Page 1 of 5

XIAMEN LICHUN ELECTRONIC ELEMENT CO.,LTD

42-2 XINGLIN 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. : XM14644726EC - XM

Date of Sample Received : 18 Jun 2013

Testing Period : 18 Jun 2013 - 24 Jun 2013

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.

Almay Gao
Approved Signatory

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Member of the SGS Group (SGS SA)

Test Report

No. CANEC1309150301

Date: 24 Jun 2013

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	CAN13-091503.001	Transparent glass tube

Remarks :

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

RoHS Directive 2011/65/EU

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs content by GC-MS.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	142
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	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Report

No. CANEC1309150301

Date: 24 Jun 2013

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes :

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

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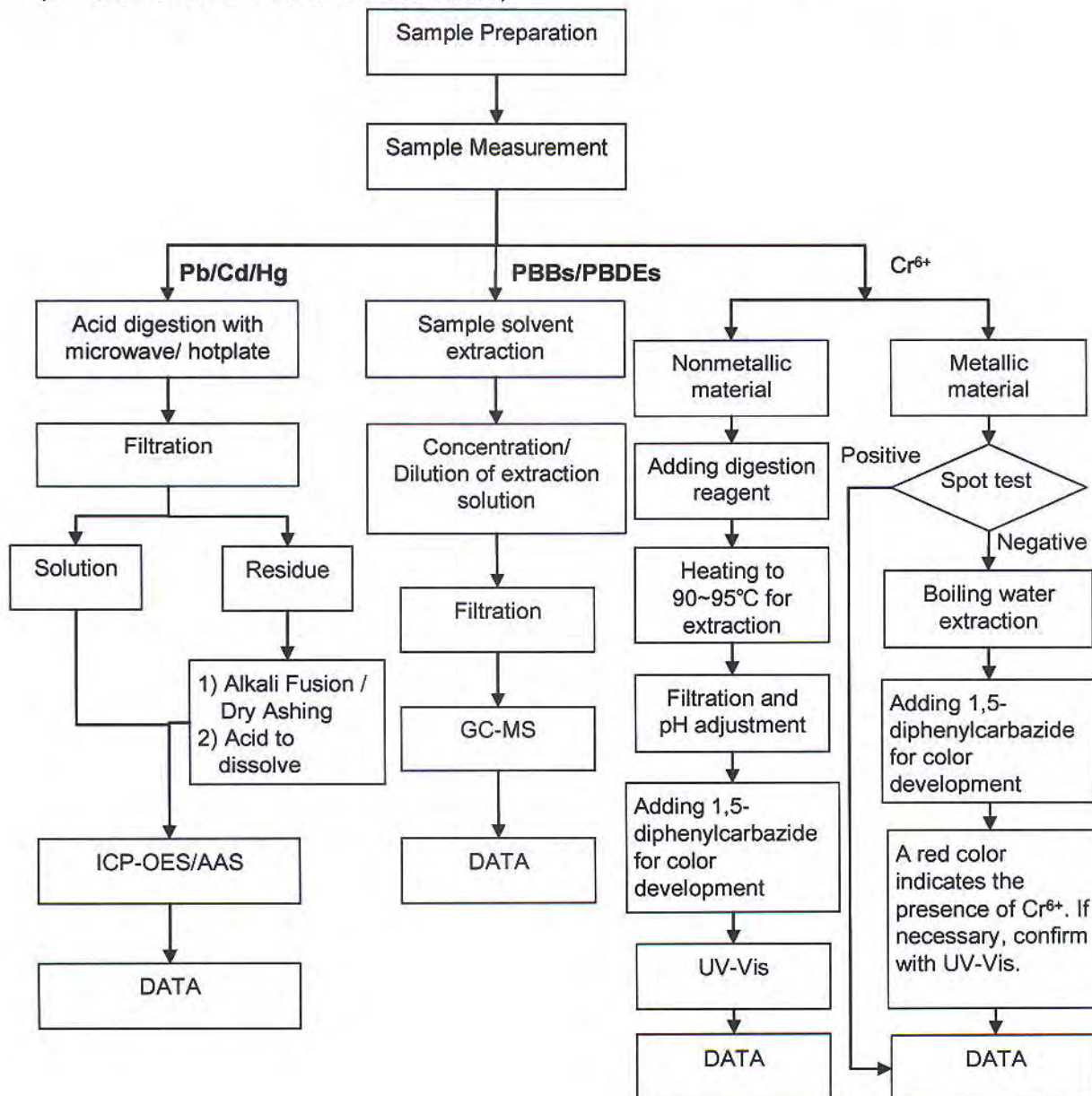
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Member of the SGS Group (SGS SA)

ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Michael Tso / Cutey Yu
- 2) Name of the person in charge of testing: Adams Yu / Yolanda Wei
- 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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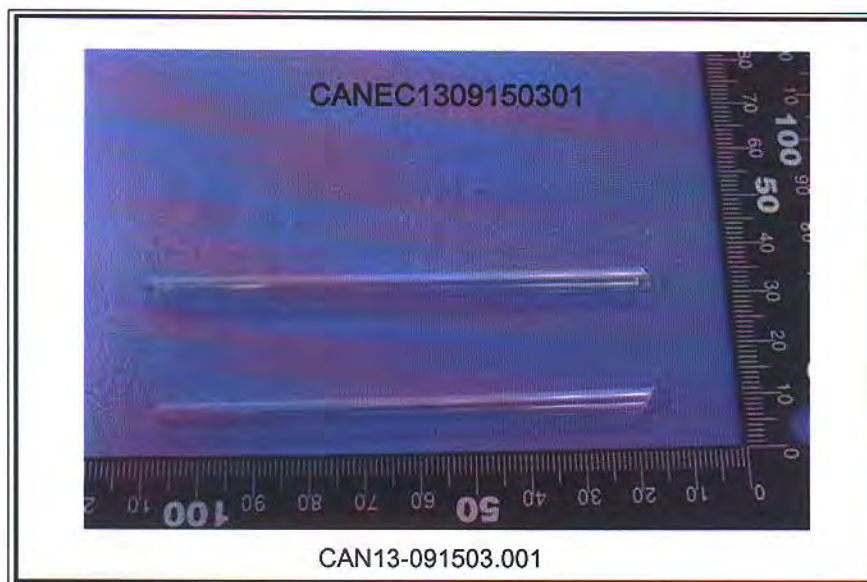
Test Report

No. CANEC1309150301

Date: 24 Jun 2013

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Sample photo:



SGS authenticate the photo on original report only

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

Date: JAN 18, 2013

Sample Description:

Two(2) pieces of submitted samples said to be :

(1) Mixed all kinds of metal substrates.

(2) Mixed all kinds of plating layers.

Item Name

: Silver Plated & Pure Silver Wires.

Item No.

: (B-1) 101.014 -, ----

– silver plated copper wire – Cu, Ag--%

(B-2) 101.0131.----

– pure silver wire – Ag 1000

(B-3) 101.0123.0---

– silver plated purest nickel wire – Ni99.98%, Ag1%

(B-4) 101.0182.0---

– silver-copper alloy plated copper plated iron nickel alloy wire

– ElconD, AgCu5%

(B-5) 101.0120.0---

– silver plated constantan wire – CuNi44, Ag5%

(B-6) 101.0151.0---

– silver plated copper - nickel 44 alloy wire

– CuNi44, Ag10%

(B-7) 1050--31.-----

– pure silver strips – Ag 1000 pure

Country Of Origin

: Germany.

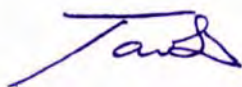
Tests Conducted:

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

(A) Test result of RoHS Directive:

<u>Testing item</u>	<u>Result</u>
	(1)
Cadmium (Cd) content (mg/kg)	ND
Lead (Pb) content (mg/kg)	ND
Mercury (Hg) content (mg/kg)	ND
Chromium ₂ (VI)(Cr ⁶⁺) result (by boiling water extraction on metal) (mg/kg with 50cm ²)	ND

<u>Testing item</u>	<u>Result</u>
	(2)
Cadmium (Cd) content (mg/kg) /Plating	ND
Lead (Pb) content (mg/kg) /Plating	ND
Mercury (Hg) content (mg/kg) /Plating	ND
Chromium ₂ (VI)(Cr ⁶⁺) result (by boiling water extraction on metal) (mg/kg with 50cm ²) /Plating	ND

Remark: mg/kg with 50cm² = milligram per kilogram with 50 square centimeter
ND = not detected

(B) RoHS Requirement:

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

The above limits were quoted from RoHS Directive 2011/65/EU for homogeneous material.

(C) Test method:

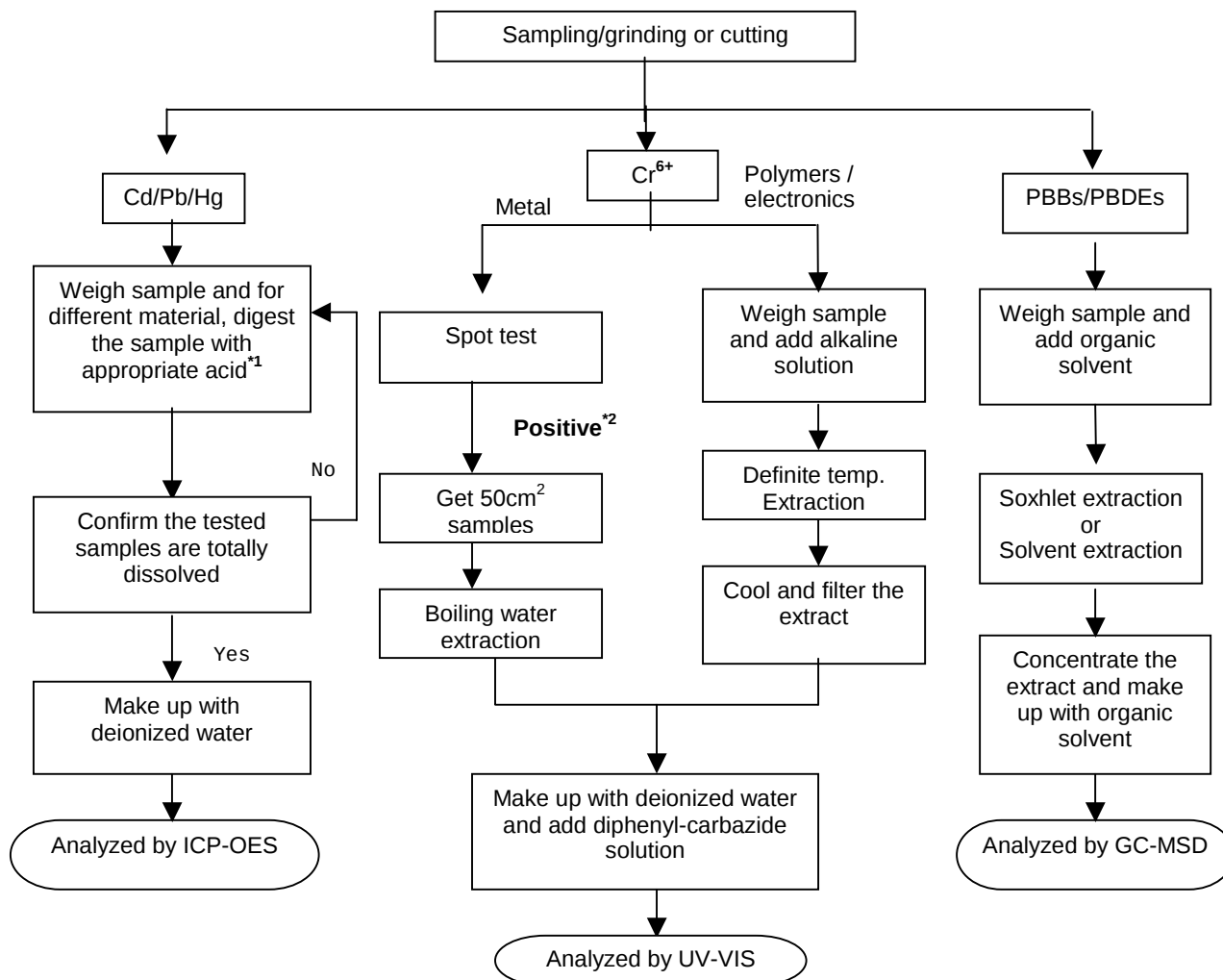
<u>Testing item</u>	<u>Testing method</u>	<u>Reporting limit</u>
Cadmium (Cd) content	With reference to IEC 62321 Edition 1.0: 2008, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Lead (Pb) content	With reference to IEC 62321 Edition 1.0: 2008, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Mercury (Hg) content	With reference to IEC 62321 Edition 1.0: 2008, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Chromium (VI) (Cr ⁶⁺) content (for metal)	With reference to IEC 62321 Edition 1.0: 2008, by boiling water extraction and determined by UV-VIS Spectrophotometer.	0.02mg/kg with 50cm ² (in testing solution)

Date sample received: Jan.14, 2013
Testing period: Jan.14, 2013 To Jan.17, 2013

To Be Continued

Tests Conducted
(D) Measurement flowchart:

Test for Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs contents
Reference standard: IEC 62321 Edition 1.0: 2008



Remarks:

*1: list of appropriate acid:

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

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

To Be Continued

Tests Conducted



To Be Continued

Tests Conducted



End Of Report

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Test Report

Number: SHAH00362299

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

Date: JAN 18, 2013

Sample Description:

Two(2) pieces of submitted samples said to be :

(1) Mixed all kinds of metal substrates.

(2) Mixed all kinds of plating layers.

Item Name : Silver Plated & Pure Silver Wires.

Item No. : (1) 101.0132.---- - silver copper alloy wire – AgCu50.

(2) 101--232.0--- - tin plated silver copper alloy wire – AgCu50,Sn - -%.

Country Of Origin : Germany.

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

(A) Test result of RoHS Directive:

Testing item	Result
	(1)
Cadmium (Cd) content (mg/kg)	ND
Lead (Pb) content (mg/kg)	ND
Mercury (Hg) content (mg/kg)	ND
Chromium (VI)(Cr ⁶⁺) result (by boiling water extraction on metal) (mg/kg with 50cm ²)	ND

Testing item	Result
	(2)
Cadmium (Cd) content (mg/kg) / Plating	ND
Lead (Pb) content (mg/kg) / Plating	20
Mercury (Hg) content (mg/kg) / Plating	ND
Chromium (VI)(Cr ⁶⁺) result (by boiling water extraction on metal) (mg/kg with 50cm ²) / Plating	ND

Remark: mg/kg with 50cm² = milligram per kilogram with 50 square centimeter
ND = not detected

(B) RoHS Requirement:

Restricted substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)

The above limits were quoted from RoHS Directive 2011/65/EU for homogeneous material.

(C) Test method:

Testing item	Testing method	Reporting limit
Cadmium (Cd) content	With reference to IEC 62321 Edition 1.0: 2008, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Lead (Pb) content	With reference to IEC 62321 Edition 1.0: 2008, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Mercury (Hg) content	With reference to IEC 62321 Edition 1.0: 2008, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Chromium (VI) (Cr ⁶⁺) content (for metal)	With reference to IEC 62321 Edition 1.0: 2008, by boiling water extraction and determined by UV-VIS Spectrophotometer.	0.02mg/kg with 50cm ² (in testing solution)

Date sample received: Jan.14, 2013

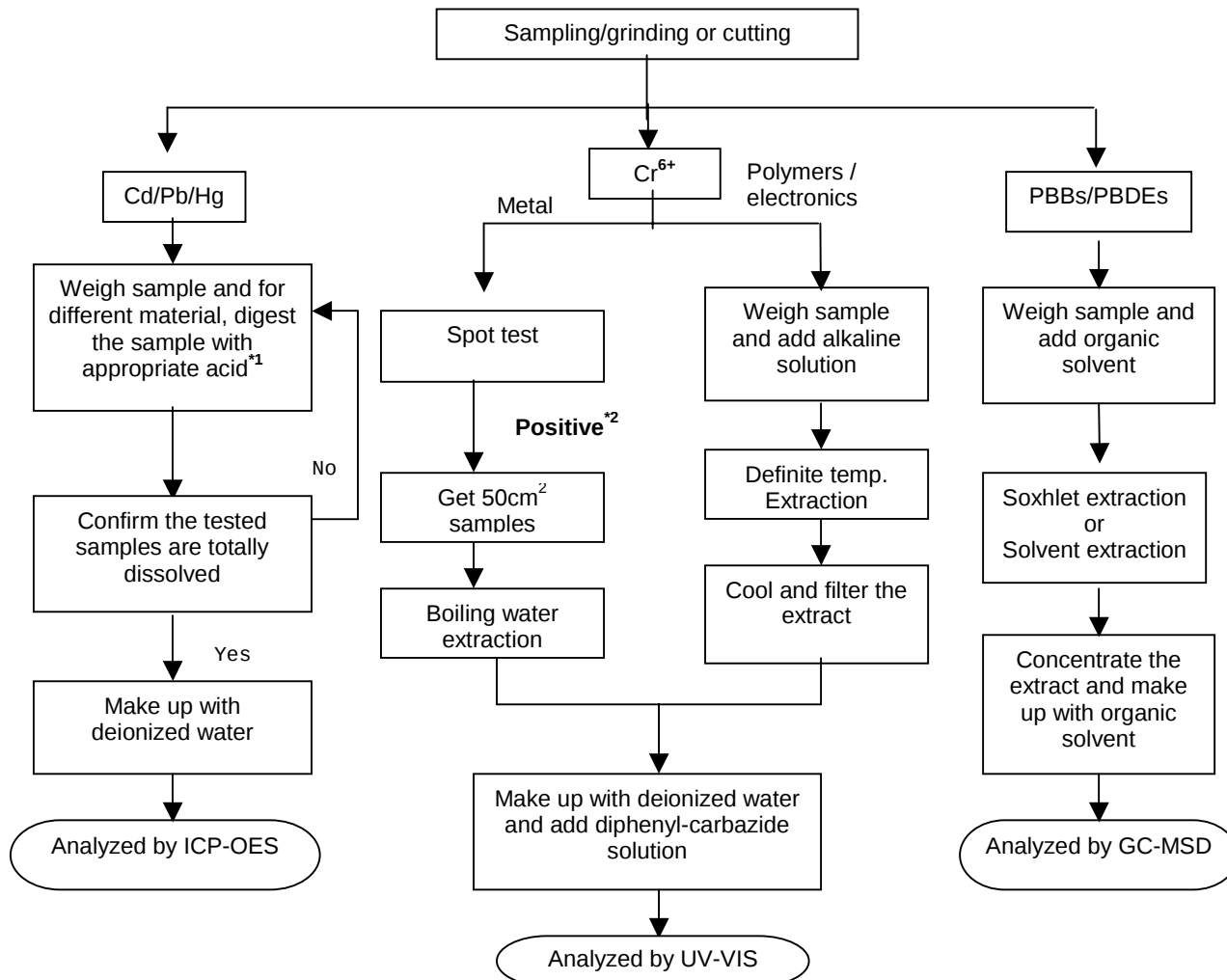
Testing period: Jan.14, 2013 To Jan.17, 2013

To Be Continued

Tests Conducted

(D) Measurement flowchart:

Test for Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs contents
Reference standard: IEC 62321 Edition 1.0: 2008



Remarks:

*1: list of appropriate acid:

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

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

To Be Continued

Tests Conducted



To Be Continued

Tests Conducted



End Of Report

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Test Report

No. SHAEC1216714738

Date: 25 Sep 2012

Page 1 of 5

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

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

SGS Job No. : SP12-028285 - SH
Part No. (P/N) : YTW206
Composition : Sn0.3Ag0.7CuCe
Date of Sample Received : 21 Sep 2012
Testing Period : 21 Sep 2012 - 25 Sep 2012
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).
Conclusion : Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.



Fan Jingjie, JJ
Approved Signatory

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Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.

Test Report

No. SHAEC1216714738

Date: 25 Sep 2012

Page 2 of 5

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA12-167147.035	Silvery wire

Remarks :

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

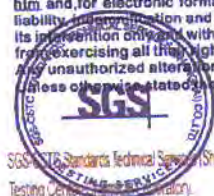
RoHS Directive 2011/65/EU

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Spot test / Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	035
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	50
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Report

No. SHAEC1216714738

Date: 25 Sep 2012

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Test Item(s)	Limit	Unit	MDL	035
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes :

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

(2) ◇Spot-test:

Negative = Absence of 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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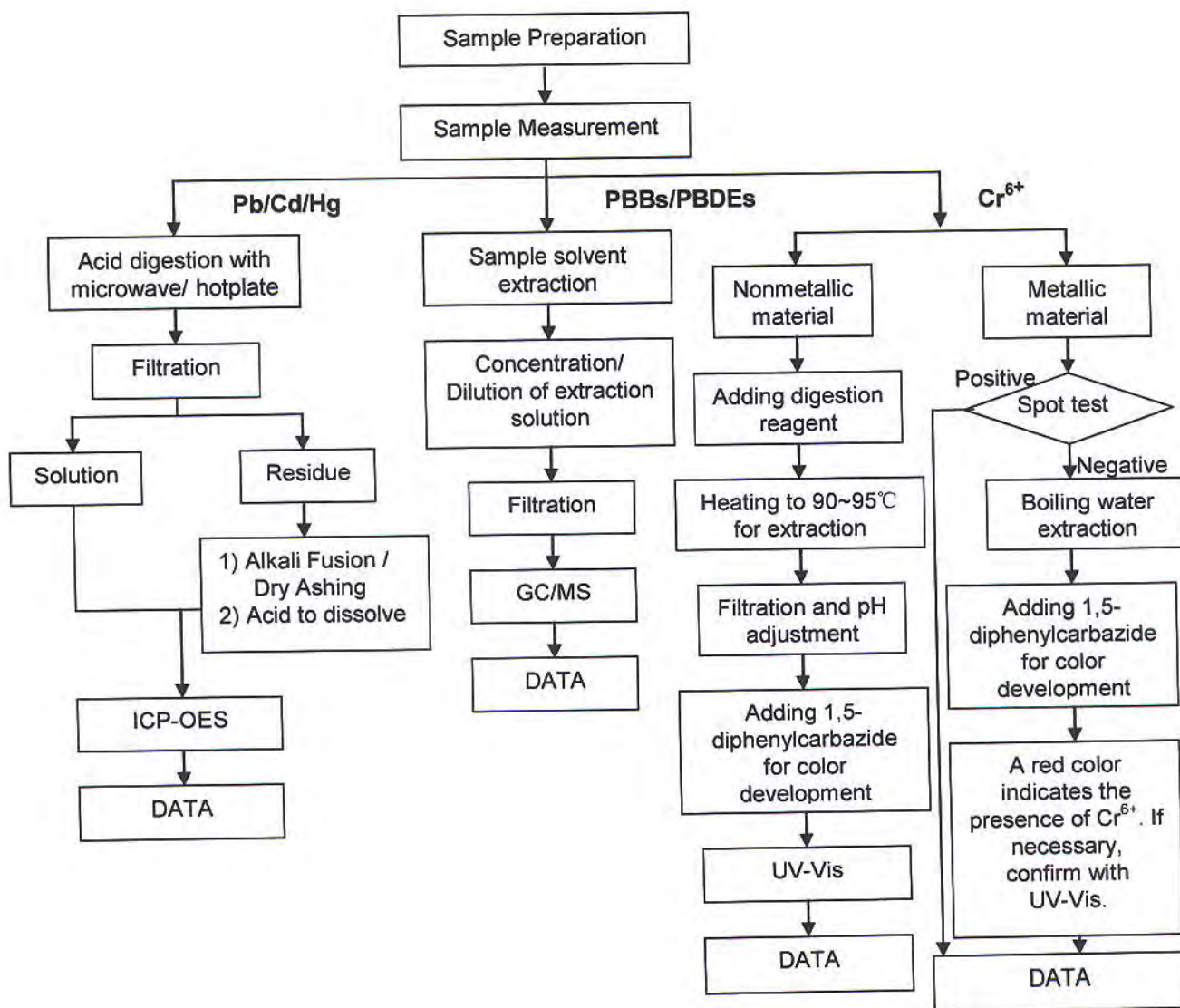
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ATTACHMENTS

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. (Cr^{6+} and PBBs/PBDEs test method excluded)



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Date: 25 Sep 2012

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Sample photo:



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Test Report

No. SHAEC1216714749

Date: 25 Sep 2012

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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 (692535-002)
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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Test Report

No. SHAEC1216714749

Date: 25 Sep 2012

Page 2 of 5

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA12-167147.042	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)	Limit	Unit	MDL	042
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	177
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Report

No. SHAEC1216714749

Date: 25 Sep 2012

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Test Item(s)	Limit	Unit	MDL	042
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes :

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

(2) ♦Spot-test:

Negative = Absence of 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.

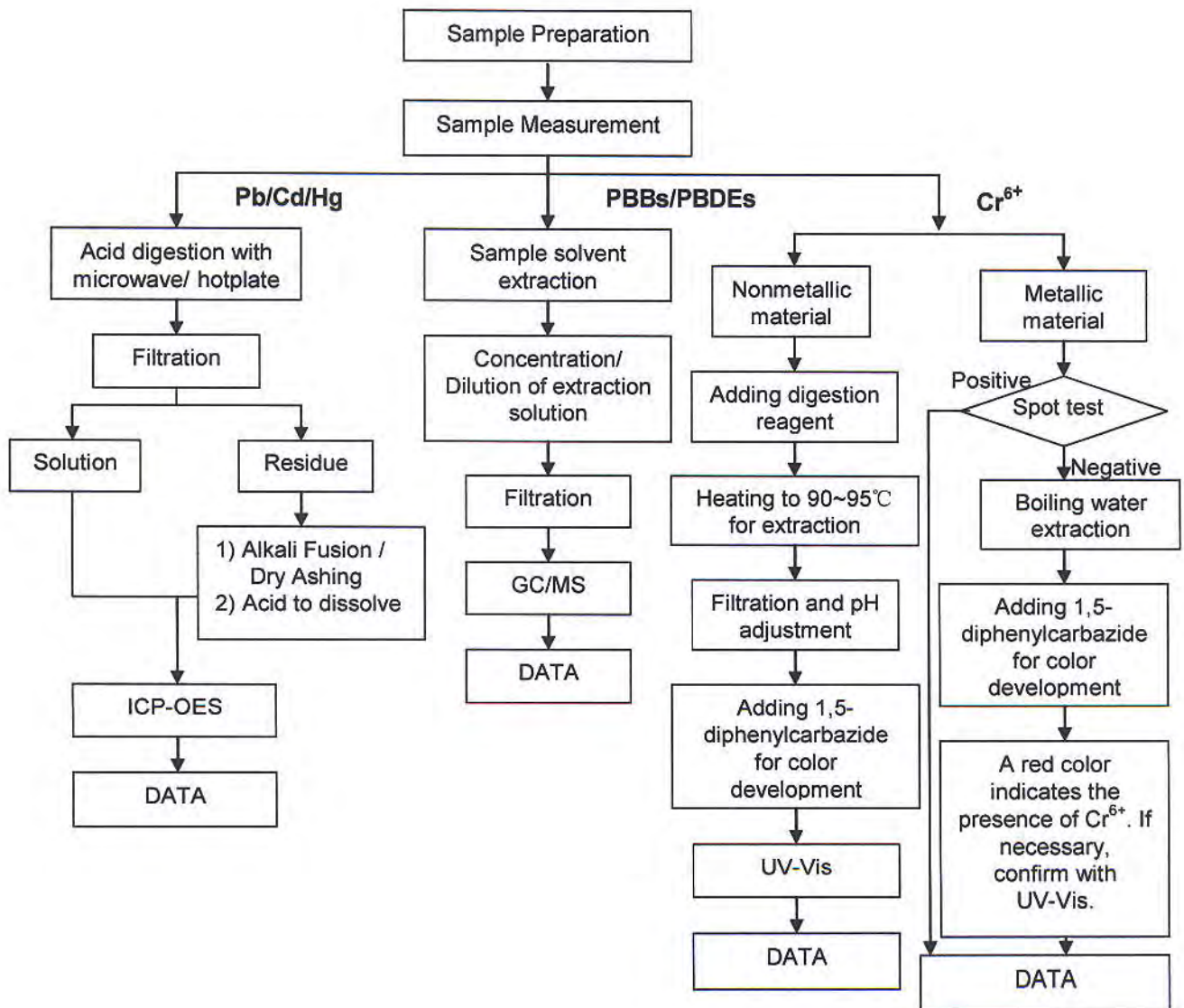
For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

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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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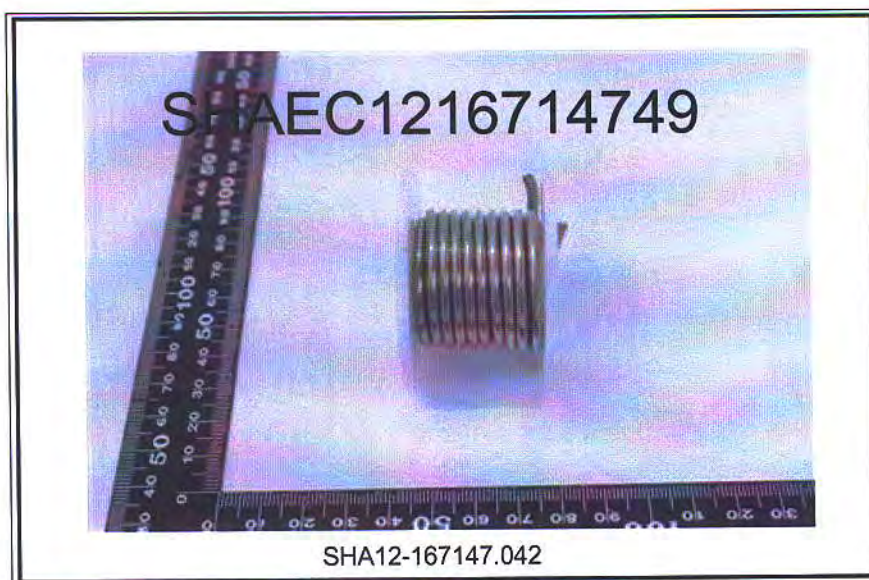
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Sample photo:



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Test Report

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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Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 2 of 7

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	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	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

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Test Item(s)	Limit	Unit	MDL	001
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

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.

Test Report

No. SHAEC1219975401

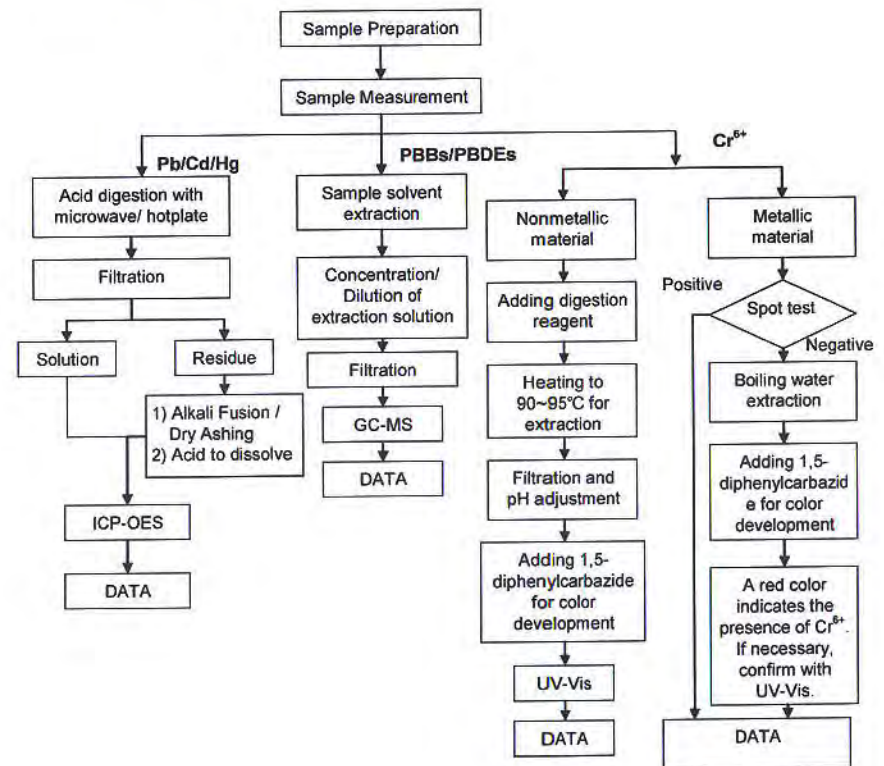
Date: 19 Nov 2012

Page 4 of 7

ATTACHMENTS

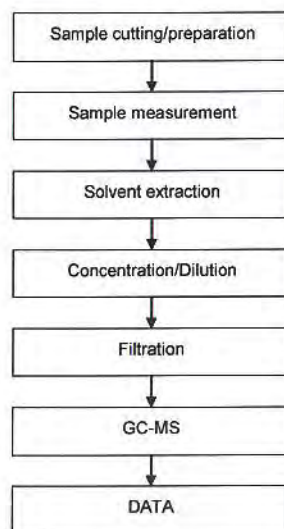
RoHS Testing Flow Chart

- 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)



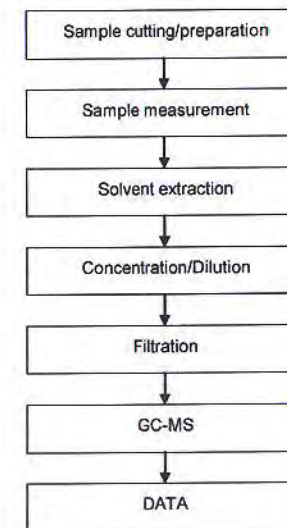
Phthalates Testing Flow Chart

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



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



Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 7 of 7

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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

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

TEAE (86-21) 61402553 TEAE (86-21) 64863679 www.cn.sgs.com
HL (86-21) 61402564 HL (86-21) 64800363 sgs.china@sgs.com

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SGS

Test Report

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

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).

Signed for and on behalf of
SGS-CSTC Ltd.


JJ Fan

Approved Signatory

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SGS Sionia Technical Service Shanghai Co., Ltd.
Testing Laboratory

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

TEL: (86-21) 61402553 FAX: (86-21) 64853679 www.cn.sgs.com
HL: (86-21) 61402594 HL: (86-21) 64500353 # sgs.china@sgs.com

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SGS

Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 2 of 6

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	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

Halogen

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

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

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Test Report

No. SHAEC1219975401

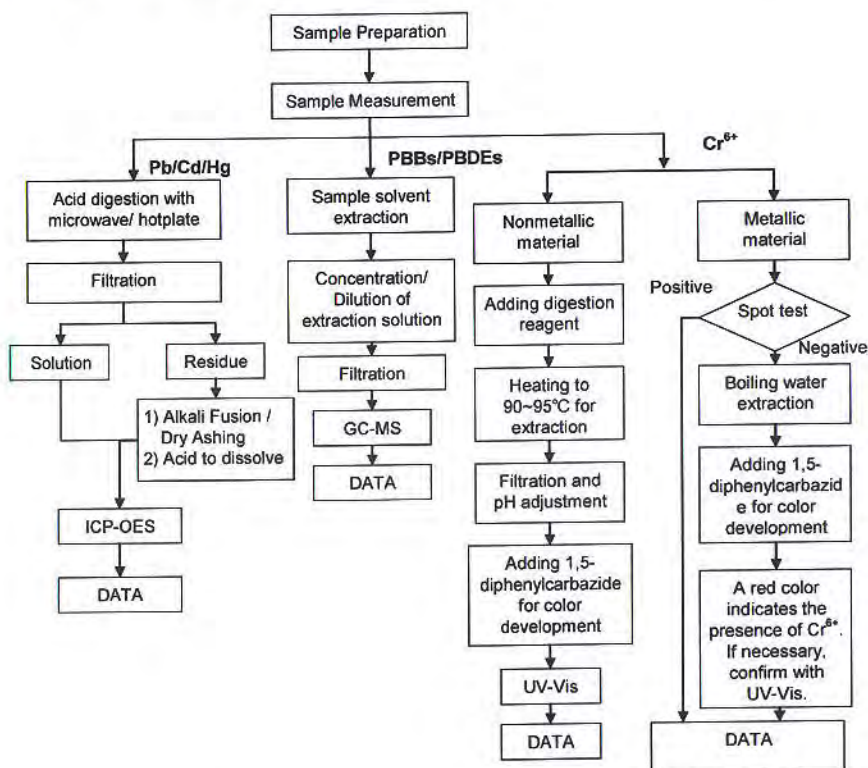
Date: 19 Nov 2012

Page 3 of 6

ATTACHMENTS

RoHS Testing Flow Chart

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



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Test Report

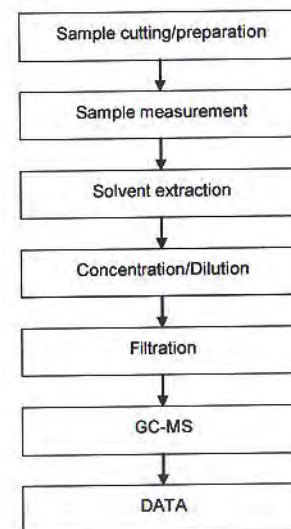
No. SHAEC1219975401

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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Test Report

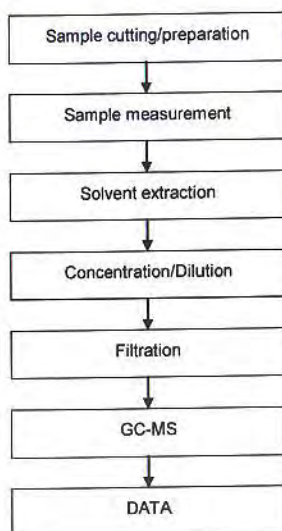
No. SHAEC1219975401

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



Test Report

No. SHAEC1219975401

Date: 19 Nov 2012

Page 6 of 6

Sample photo:



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Test Report

Report No. RLTJF000103890001

Page 1 of 5

Applicant BEIJING HYSTIC NEW MATERIALS CO., LTD.

Address 5 SHUANGYUAN ROAD, BADACHU HIGH-TECH ZONE, BEIJING, 100041, CHINA.

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

Sample Name EPOXY ADHESIVE
Part No. EP608
Customer Reference Information EP625, EP652, EP425, EP162, EP162L, EP209, EP210, EP211, EP229, EP313, EP315, EP100-EP199, EP200-EP299, EP300-EP399, EP400-EP499, EP500-EP599, EP600-EP699

Sample Received Date May. 6, 2013
Testing Period May. 6, 2013 to May. 8, 2013

Test Requested As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).

Conclusion

Tested Sample	According to directive	Result
Submitted Sample	2011/65/EU*	Pass

*2011/65/EU is a new version of RoHS Directive (2002/95/EC), which focuses on restriction of the use of certain hazardous substances (Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs)) in electrical and electronic equipment.

Pass means that the results shown on the report do not exceed the limits set by RoHS Directive 2011/65/EU.

Tested by

Ris Li



Reviewed by

Andy Chang

Approved by

Allen Wang

Date

May. 8, 2013

Allen Wang

Technical Manager

No. 1428692328

Centre Testing International (Tianjin) Co., Ltd.

No.99, Xianfeng East Road, Dongli District, Tianjin, China

Test Report

Report No. RLTJF000103890001

Page 2 of 5

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321:2008 Ed.1 Sec.10	ICP-OES
Cadmium(Cd)	IEC 62321:2008 Ed.1 Sec.10	ICP-OES
Mercury(Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis
Polybrominated Biphenyls(PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS

Test Result(s)

Tested Item(s)	Result	MDL	Limit of Directive 2011/65/EU
Lead(Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury(Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	2 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL	Limit of Directive 2011/65/EU
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Test Report

Report No. RLTJF000103890001

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Tested Item(s)	Result	MDL	Limit of Directive 2011/65/EU
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

Tested Sample/Part Description Light yellow liquid

Note: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

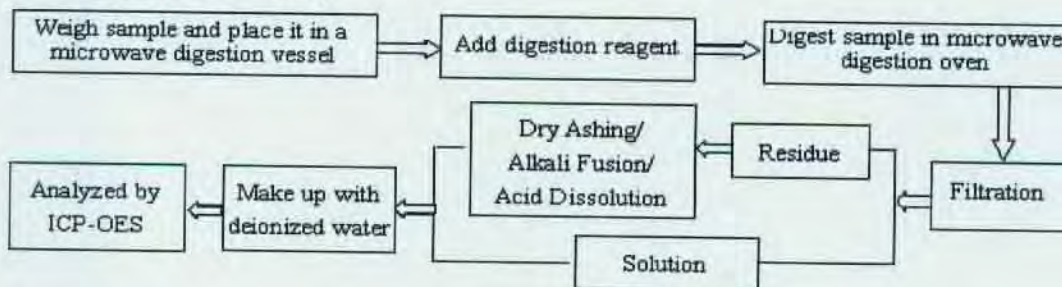
Test Report

Report No. RLTJF000103890001

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Test Process

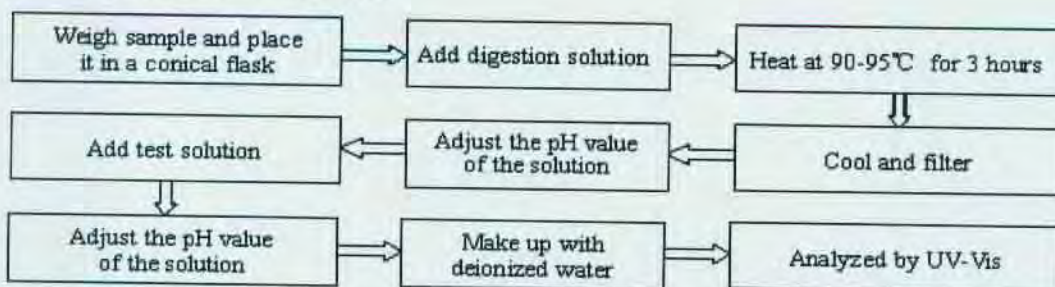
1. Lead(Pb), Cadmium(Cd)



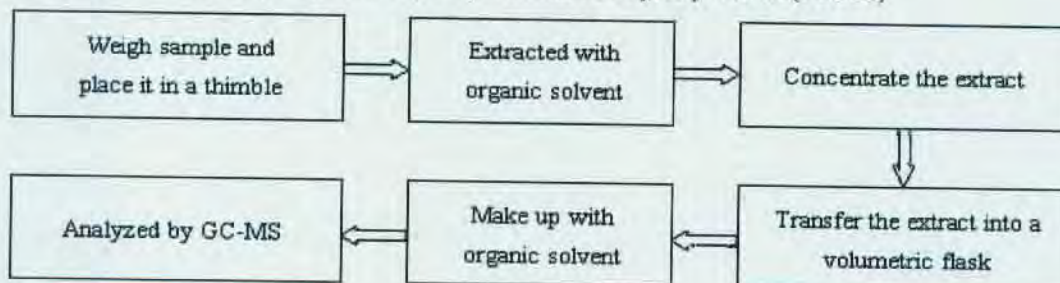
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))



4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs)

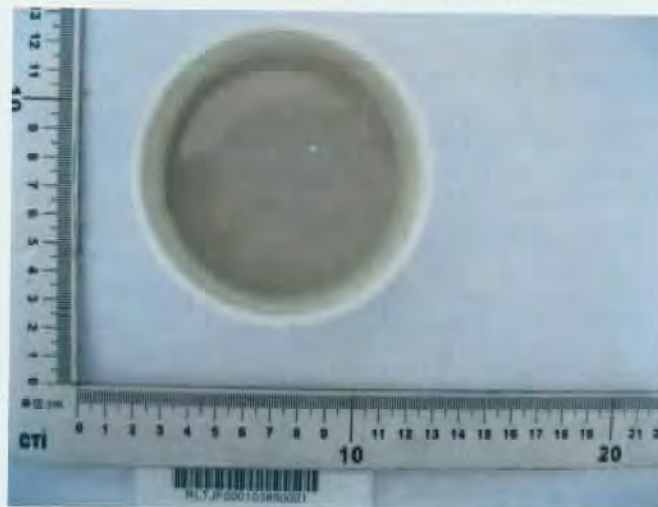


Test Report

Report No. RLTJF000103890001

Page 5 of 5

Photo(s) of the sample(s)



*** End of report ***

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Test Report

Report No. RL TJF000102620001

Page 1 of 3

Applicant BEIJING HYSTIC NEW MATERIALS CO., LTD.

Address 5 SHUANGYUAN ROAD, BADACHU HIGH-TECH ZONE, BEIJING, 100041, CHINA.

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

Sample Name EPOXY ADHESIVE
Part No. EP608
Customer Reference EP625, EP652, EP425, EP162, EP162L, EP209, EP210, EP211, EP229, EP313, EP315, EP100-EP199, EP200-EP299, EP300-EP399, EP400-EP499, EP500-EP599, EP600-EP699
Information

Sample Received Date Apr. 19, 2013

Testing Period Apr. 19, 2013 to Apr. 24, 2013

Test Requested As specified by client, to test Dibutyl phthalate (DBP), Benzyl butyl phthalate (BBP), Di-2-ethylhexyl phthalate (DEHP), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Dibutyl phthalate (DBP)	Refer to EN 14372 : 2004	GC-MS
Benzyl butyl phthalate (BBP)	Refer to EN 14372 : 2004	GC-MS
Di-2-ethylhexyl phthalate (DEHP)	Refer to EN 14372 : 2004	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996	GC-MS

Test Result(s) Please refer to the following page(s).

Tested by

Ris Li

Reviewed by

Andy Chang

Approved by

Allen Wang

Date

Apr. 24, 2013

Allen Wang

Technical Manager

No. 1428612964

Centre Testing International (Tianjin) Co., Ltd.

No. 99, Xianfeng East Road, Dongli District, Tianjin, China

Test Report

Report No. RLTJF000102620001

Page 2 of 3

Test Result(s)

Tested Item(s)	Result	MDL
Hexabromocyclododecane (HBCDD)	N.D.	5 mg/kg
Tested Item(s)	Result	MDL
Phthalate		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Benzyl butyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg

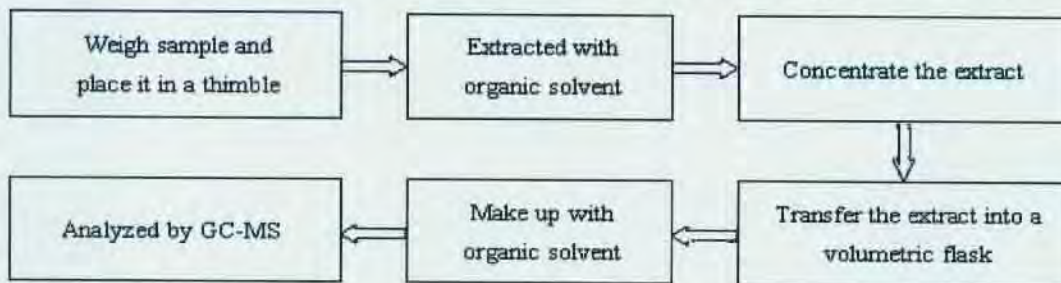
Tested Sample/Part Description Light yellow liquid

Note:

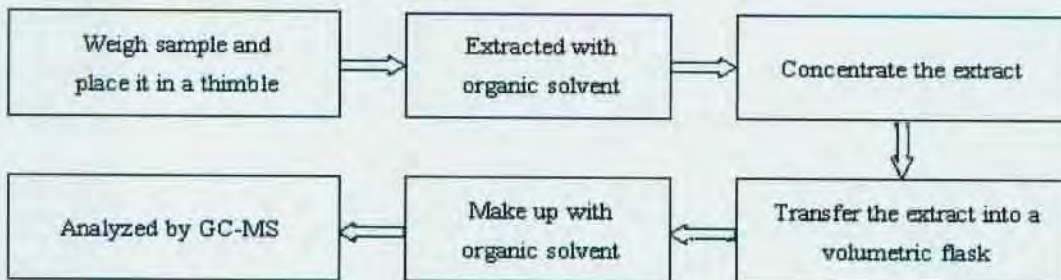
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million

Test Process

1. Dibutyl phthalate(DBP), Di-2-ethylhexyl phthalate(DEHP), Benzyl butyl phthalate(BBP)



2. Hexabromocyclododecane (HBCDD)

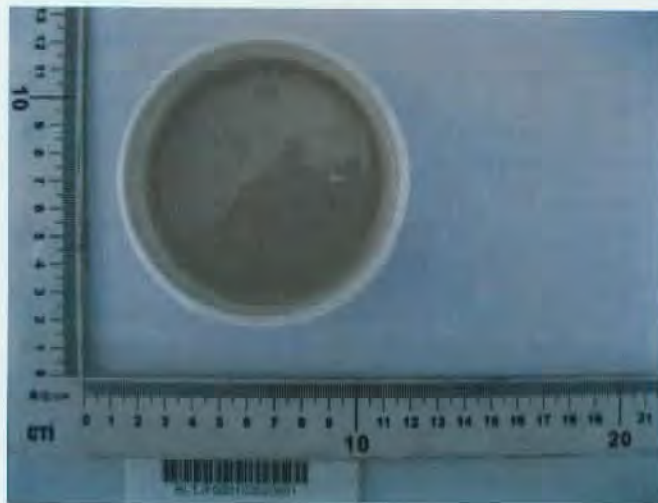


Test Report

Report No. RL TJF000102620001

Page 3 of 3

Photo(s) of the sample(s)



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Test Report

Report No. RL TJF000102620002

Page 1 of 3

Applicant BEIJING HYSTIC NEW MATERIALS CO., LTD.

Address 5 SHUANGYUAN ROAD, BADACHU HIGH-TECH ZONE, BEIJING. 100041, CHINA.

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

Sample Name EPOXY ADHESIVE
Part No. EP608
Customer Reference EP625, EP652, EP425, EP162, EP162L, EP209, EP210, EP211, EP229, EP313, EP315, EP100-EP199, EP200-EP299, EP300-EP399, EP400-EP499, EP500-EP599, EP600-EP699
Information

Sample Received Date Apr. 19, 2013
Testing Period Apr. 19, 2013 to Apr. 24, 2013

Test Requested As specified by client, to test Fluorine(F), Chlorine(Cl), Bromine(Br), Iodine(I) in the submitted sample(s).

Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Fluorine(F)	Refer to BS EN 14582:2007	IC
Chlorine(Cl)	Refer to BS EN 14582:2007	IC
Bromine(Br)	Refer to BS EN 14582:2007	IC
Iodine(I)	Refer to BS EN 14582:2007	IC

Test Result(s) Please refer to the following page(s).

Tested by

Ris Liu

Reviewed by

Andy Chang

Approved by

Allen Wang

Date

Apr. 24, 2013

Allen Wang

Technical Manager

No. 1428612964

Centre Testing International (Tianjin) Co., Ltd.

No.99, Xianfeng East Road, Dongli District, Tianjin, China

Test Report

Report No. RL/TJF000102620002

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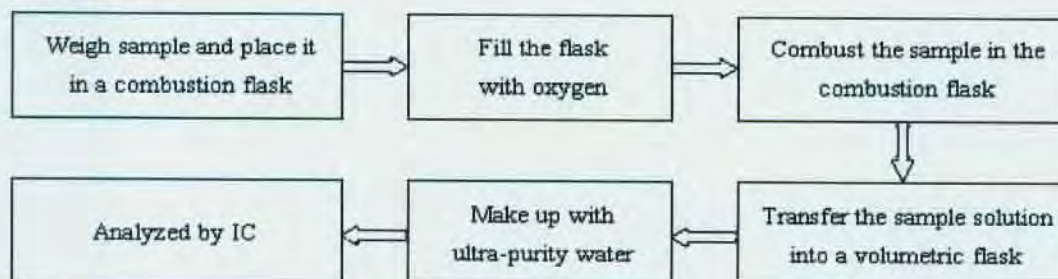
Test Result(s)

Tested Item(s)	Result	MDL
Halogen(s)		
Fluorine(F)	N.D.	10 mg/kg
Chlorine(Cl)	5.62×10^{-3} mg/kg	10 mg/kg
Bromine(Br)	N.D.	10 mg/kg
Iodine(I)	N.D.	10 mg/kg

Tested Sample/Part Description Light yellow liquid

Note:
 -MDL = Method Detection Limit
 -N.D. = Not Detected (<MDL)
 -mg/kg = ppm = parts per million

Test Process

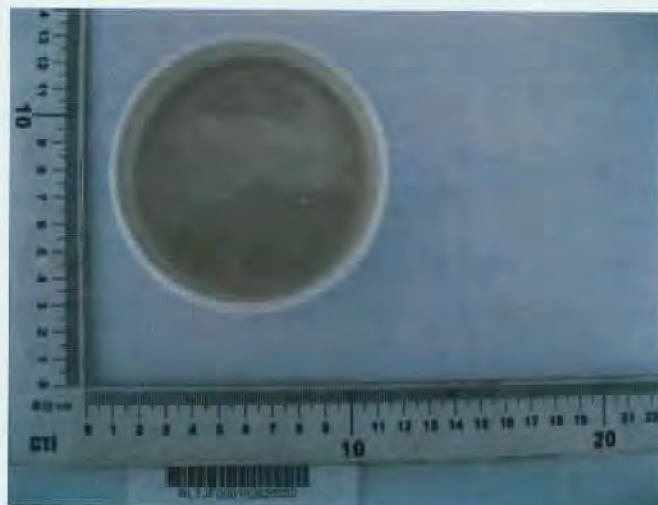


Test Report

Report No. RLTJF000102620002

Page 3 of 3

Photo(s) of the sample(s)



*** End of report ***

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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: /

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:

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

Conclusion:

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

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

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

Project Leader: Maggie
Li Tingting, Maggie
Chemical Test Director

Reviewed by: Weikin
Wang Wexin, Weikin
Technical Director

Approved by: Mickey
Yuan Qi, Mickey
Lab Manager

TEST REPORT

NO.: A002R121008024-2R02

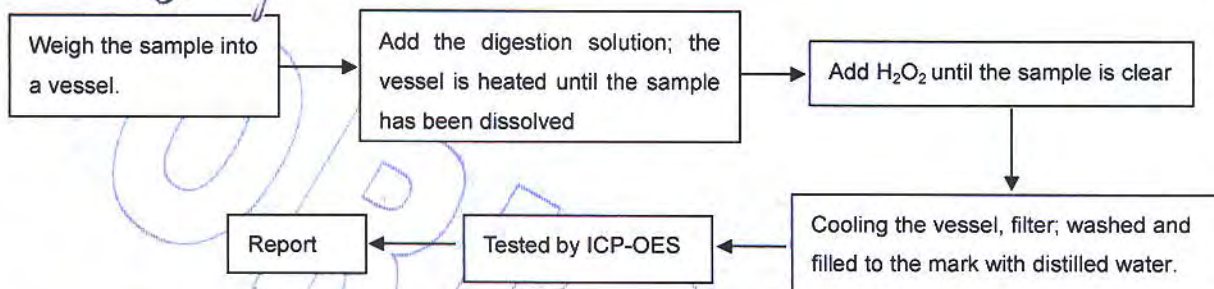
Date: Oct.10, 2012

Page 2 of 4

Test Flow:

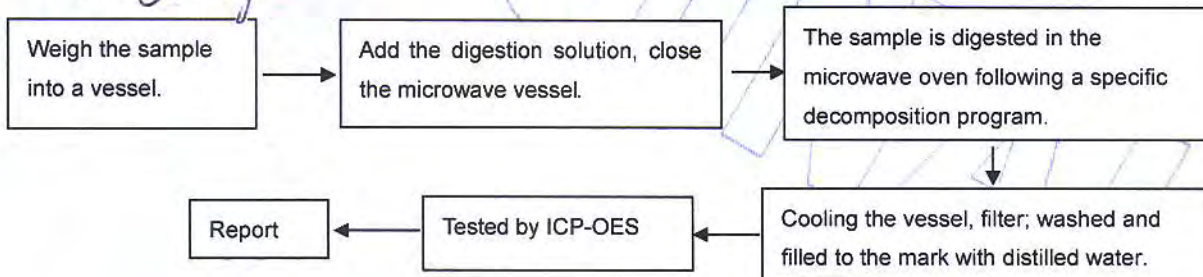
1. To Determine Lead, Cadmium Content: (Metal substrate)

Tested by: *Condy*



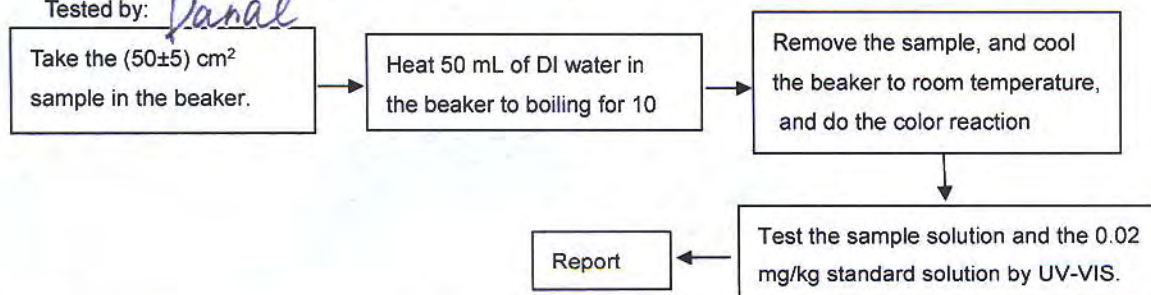
2. To Determine Mercury Content: (Metal substrate)

Tested by: *Condy*



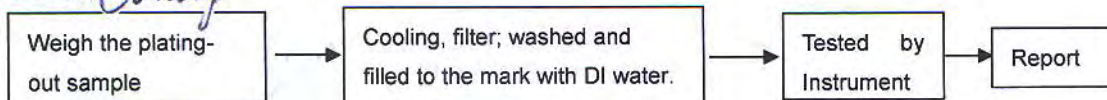
3. To Determine Hexavalent Chromium Content (boiling- water- extraction): (Metal substrate)

Tested by: *Danae*



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

Tested by: *Condy*



TEST REPORT

NO.: A002R121008024-2R02

Date: Oct.10, 2012

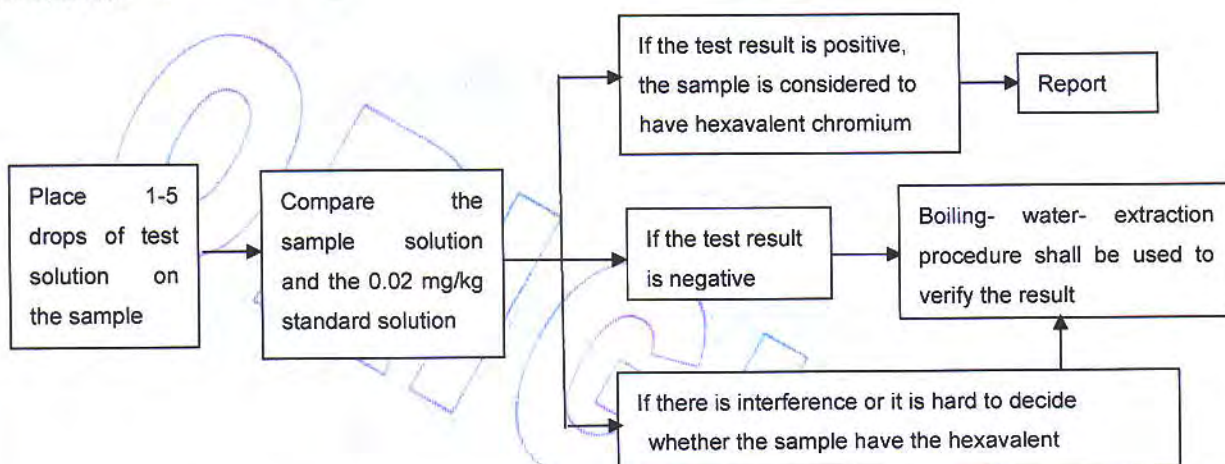
Page 3 of 4

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

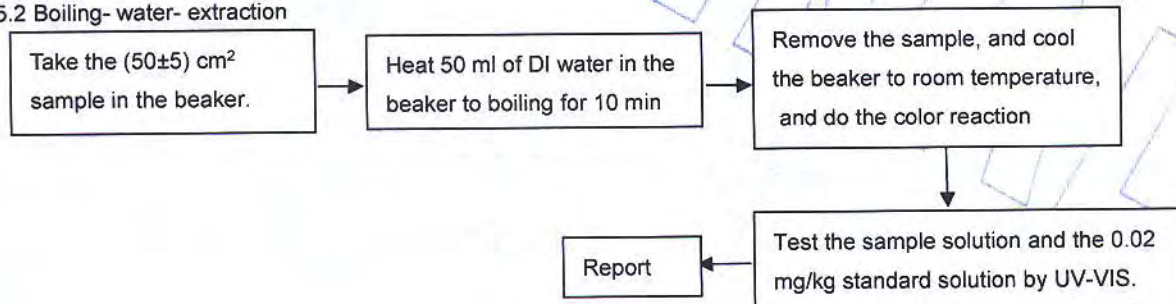
Tested by:

Danae

5.1 Spot-test



5.2 Boiling- water- extraction



Sample Description:

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

Test Results:

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

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



TEST REPORT

NUMBER: SH AH00346635

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATT N: A.DIVIETRO/D.UNTIEDT

DATE: OCT 29, 2012

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **RED INK.**
PART DESCRIPTION : INK-RED.
PART NUMBER : 425901.
DATE SAMPLE RECEIVED : OCTOBER.19, 2012.
DATE TEST STARTED : OCTOBER.19, 2012.

TESTS CONDUCTED:

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

TO BE CONTINUED

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

JACOB LIN
GENERAL MANAGER

TESTS CONDUCTED

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)	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:

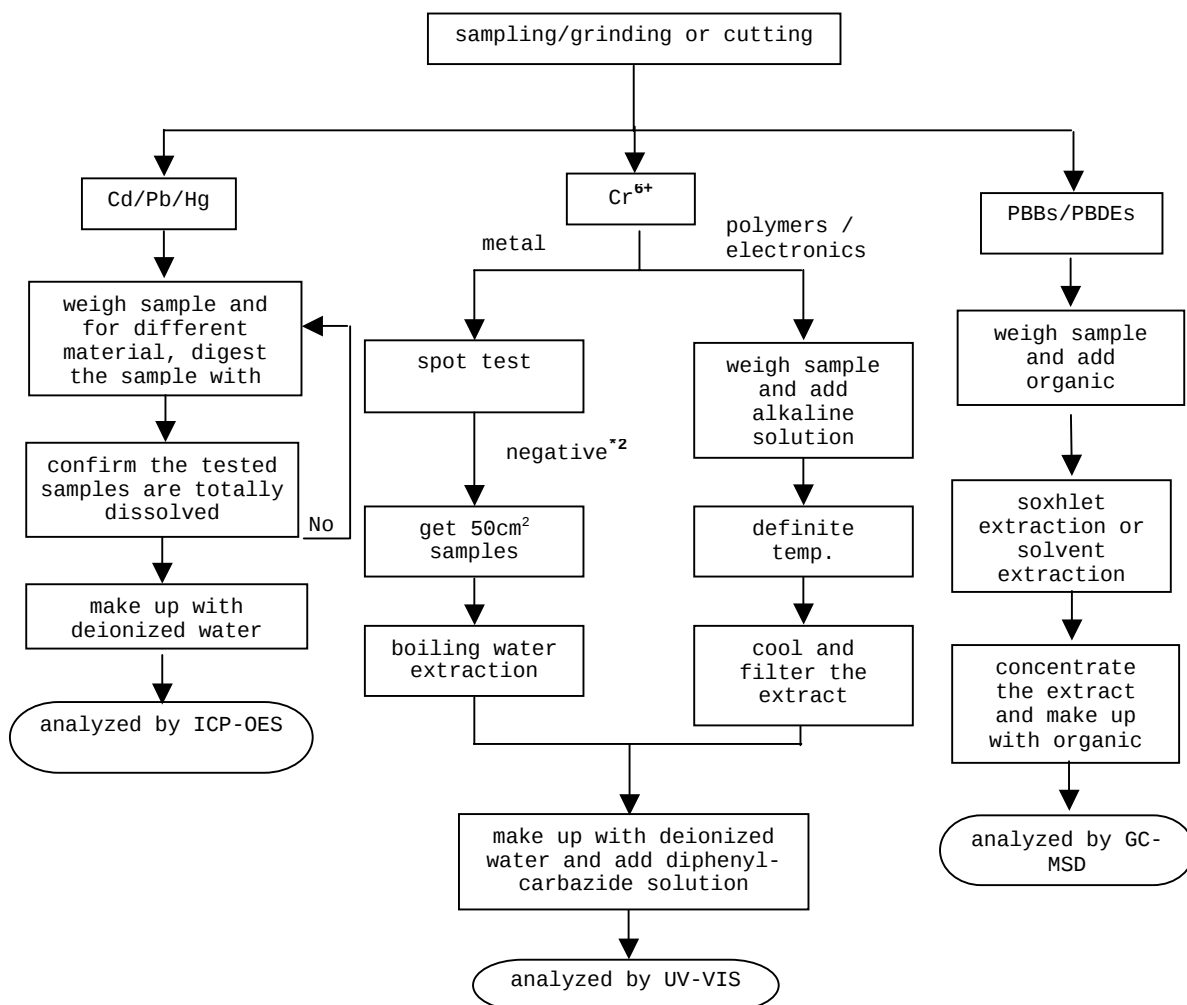
Testing Item T	Testing Method R	Reporting Limit
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in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

TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

**TEST REPORT**

NUMBER: SH AH00346635

TESTS CONDUCTED

2 (I) Test Result Summary :

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

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

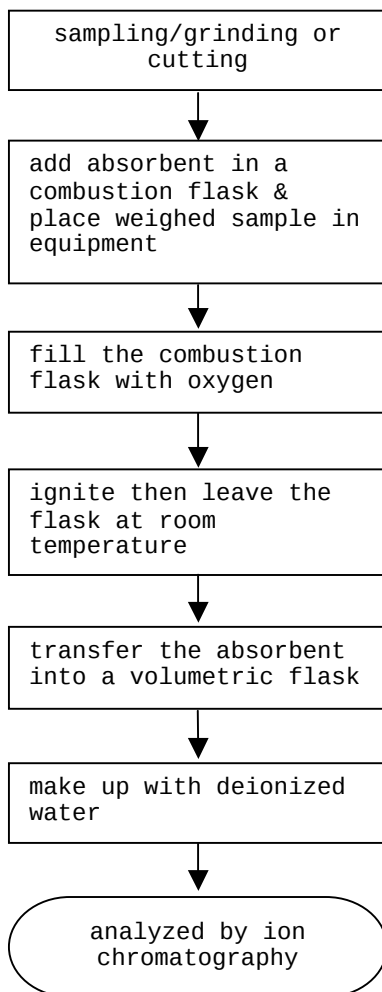
Testing Item T	Testing Method R	Reporting Limit
Halogen Content	With reference to EN 14582:2007 by combustion flask with oxygen and determined by ion chromatography	50 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TESTS CONDUCTED
(IV) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00346635

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

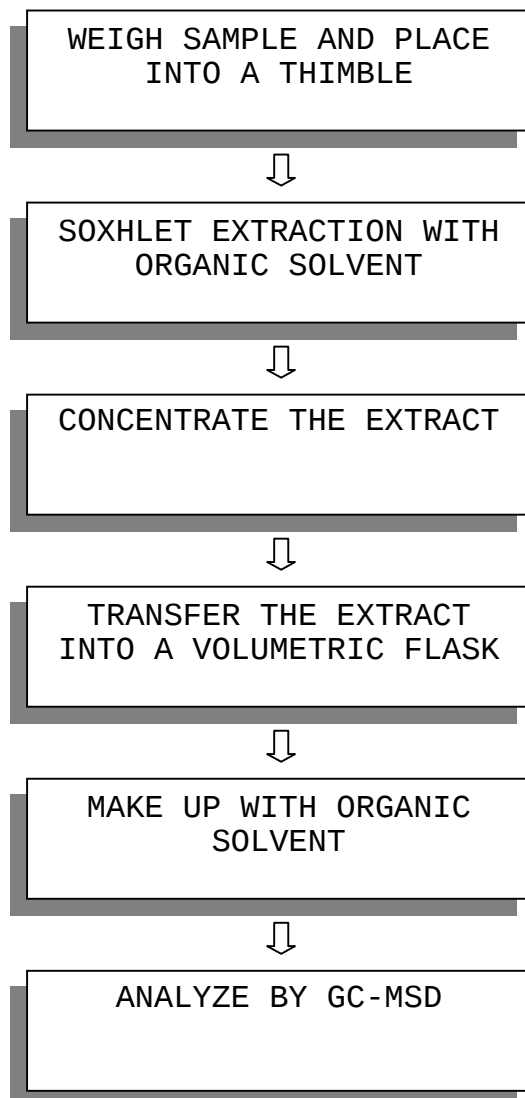
TESTING ITEM TE	TESTING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT



TO BE CONTINUED

TEST REPORT

NUMBER: SH AH00346635

TESTS CONDUCTED

4 PHT HALATE CONTENT TEST

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND R</u>	<u>ESULT (%W/W)</u>	<u>LIMIT(%W/W)</u> <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.

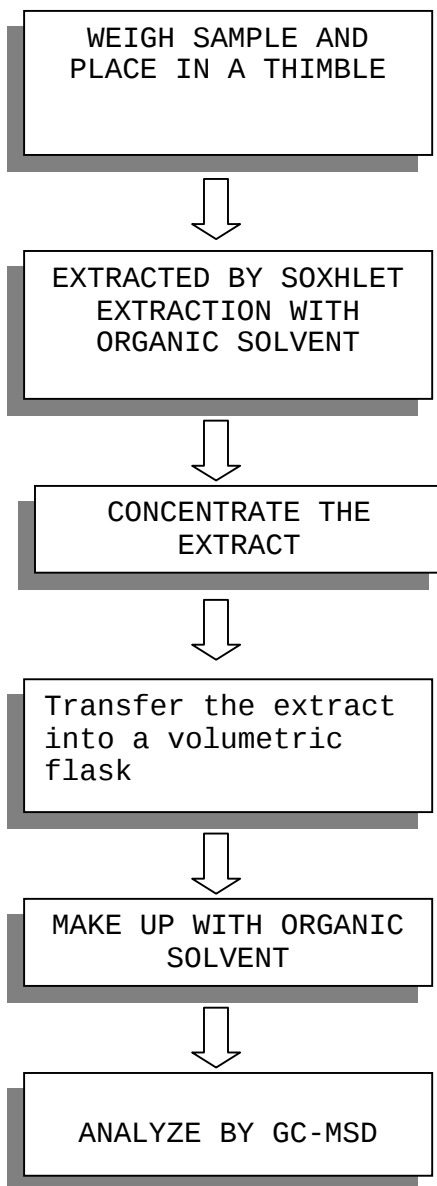
DETECTION LIMIT = 0.01%(W/W)
ND = NOT DETECTED

DATE SAMPLE RECEIVED : OCT.19, 2012
TESTING PERIOD : OCT.19, 2012 TO OCT.23, 2012

TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

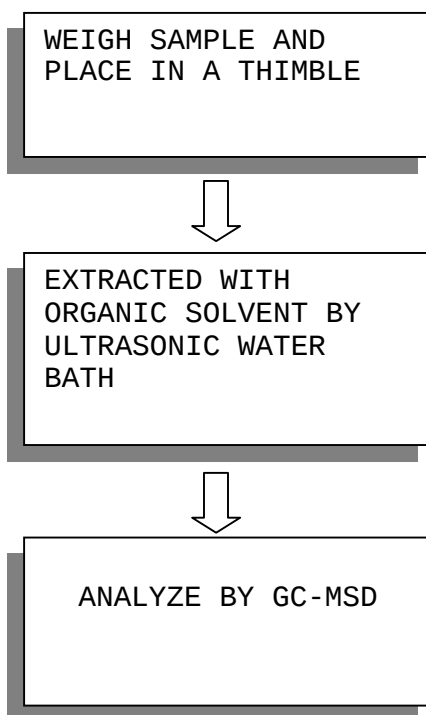
TEST FOR PHTHALATES CONTENTS (EN14372)



TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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TEST REPORT

NUMBER: SH AH00345635

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATT N: A.DIVIETRO/D.UNTIEDT

DATE: OCT 29, 2012

SAMPLE DESCRIPTION:

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

Testing Item T	Testing Method R	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

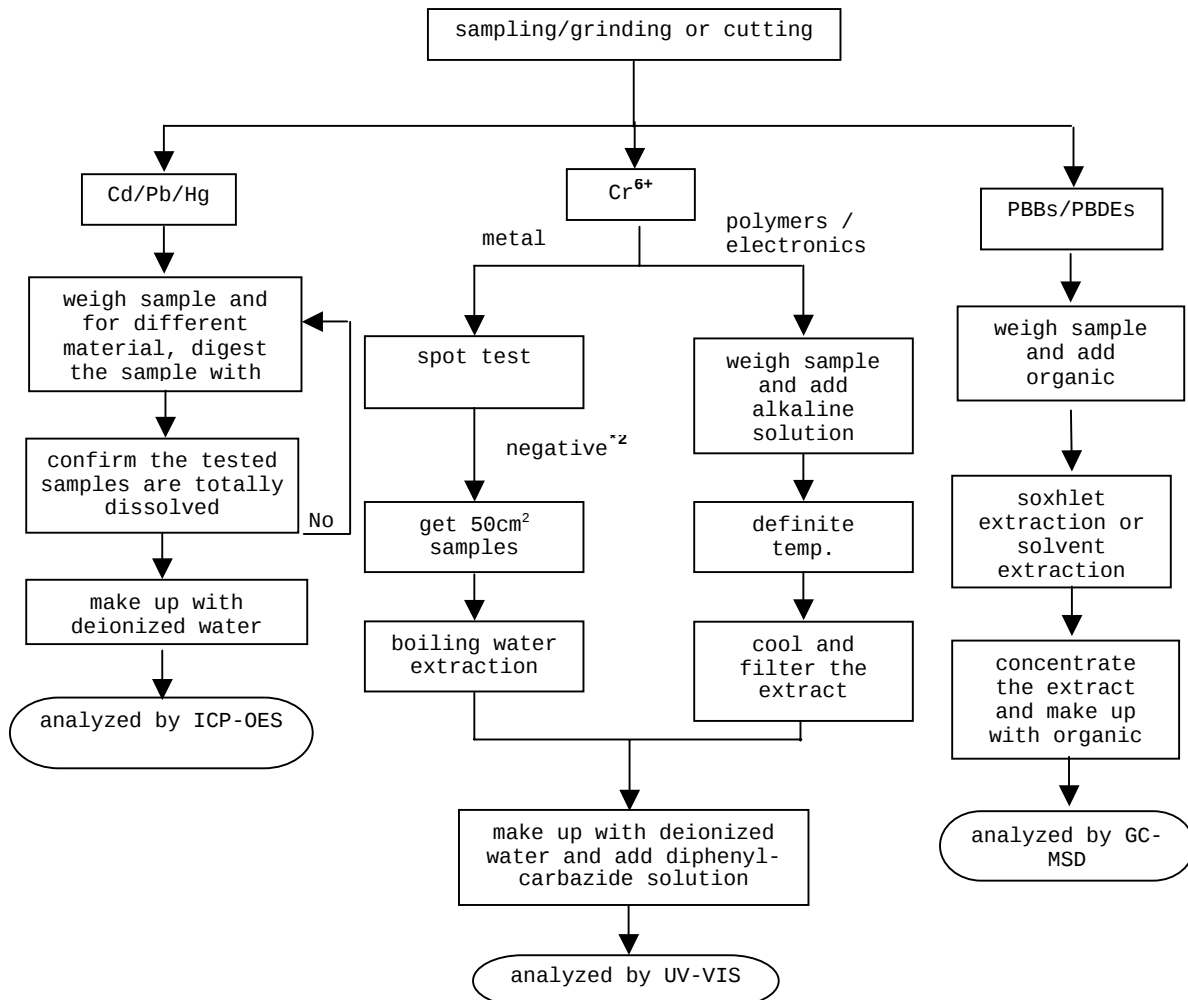
TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

TESTS CONDUCTED

2 (I) Test Result Summary :

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

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

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

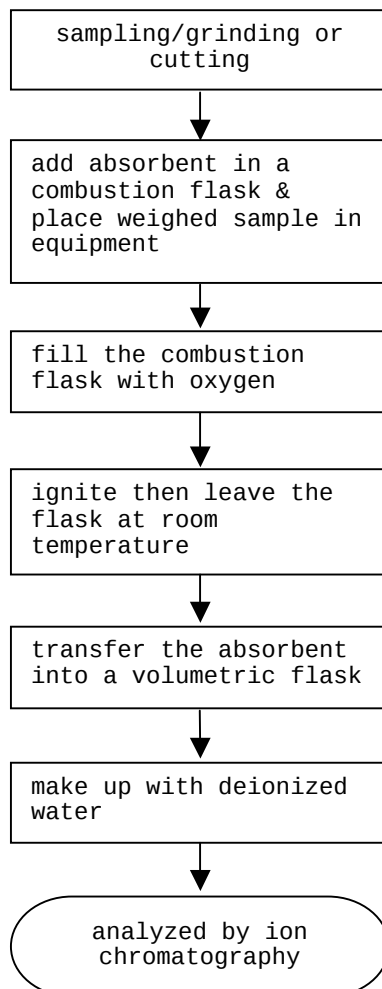
Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345635

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

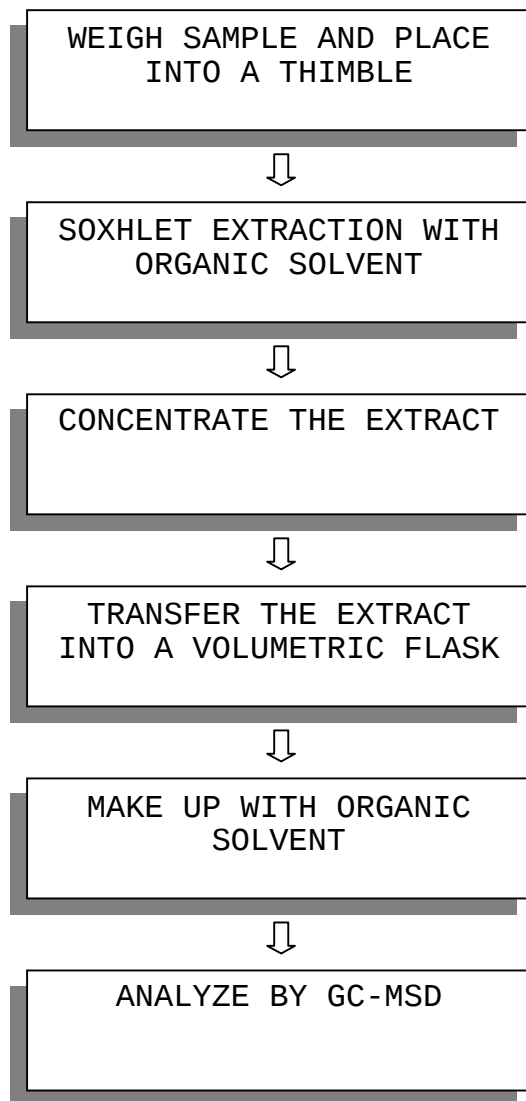
TESTING ITEM TE	TESTING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

*****
TO BE CONTINUED

TEST REPORT

NUMBER: SH AH00345635

TESTS CONDUCTED

4 PHT HALATE CONTENT TEST

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND R</u>	<u>ESULT (%W/W)</u>	<u>LIMIT(%W/W)</u> <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

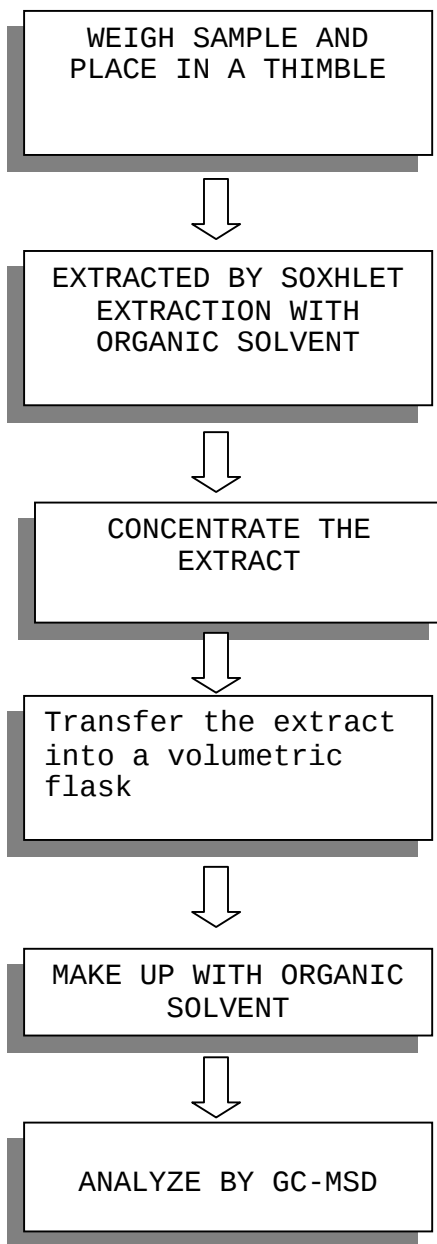
DATE SAMPLE RECEIVED: OCT.15, 2012
TESTING PERIOD : OCT.15, 2012 TO OCT.18, 2012

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

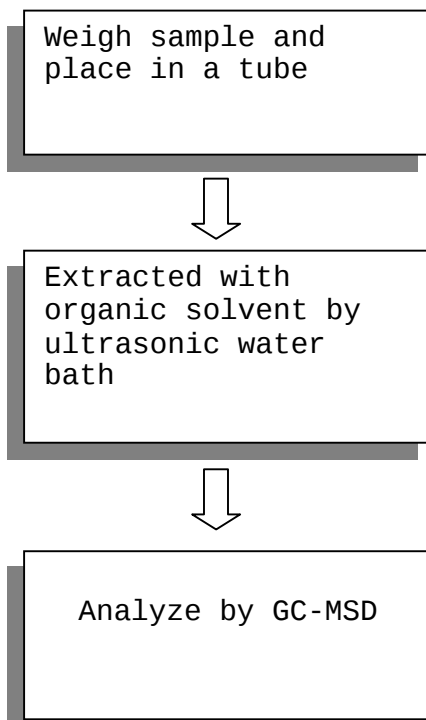


TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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TEST REPORT

NUMBER: SH AH00345662

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
AT TN: A.DIVIETRO/D.UNTIEDT

DATE: OCT 26, 2012

SAMPLE DESCRIPTION:

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

Testing Item T	Testing Method R	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

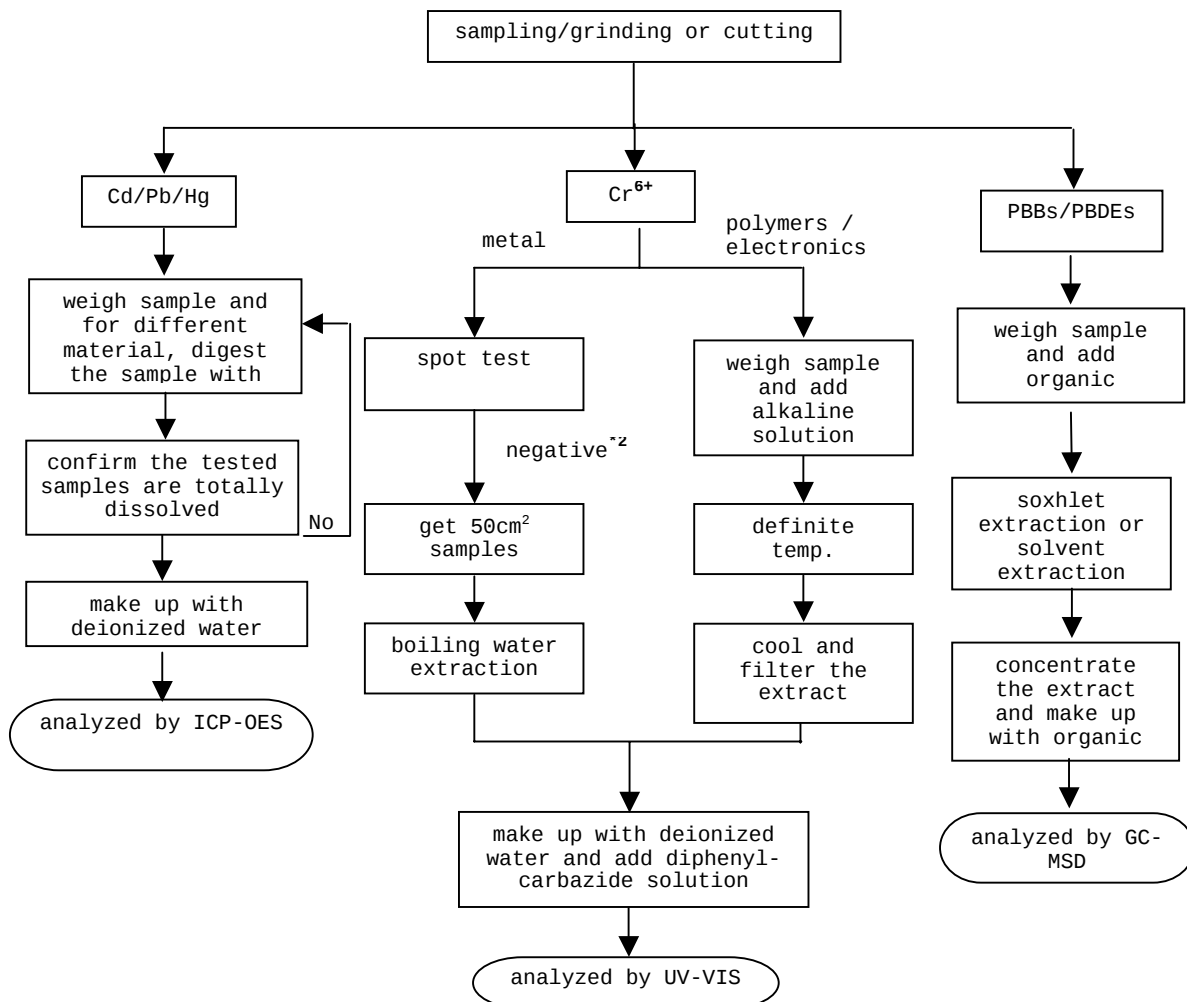
TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

**TEST REPORT**

NUMBER: SH AH00345662

TESTS CONDUCTED

2 (I) Test Result Summary :

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

Remarks: ppm = Parts per million = mg/kg

N D = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

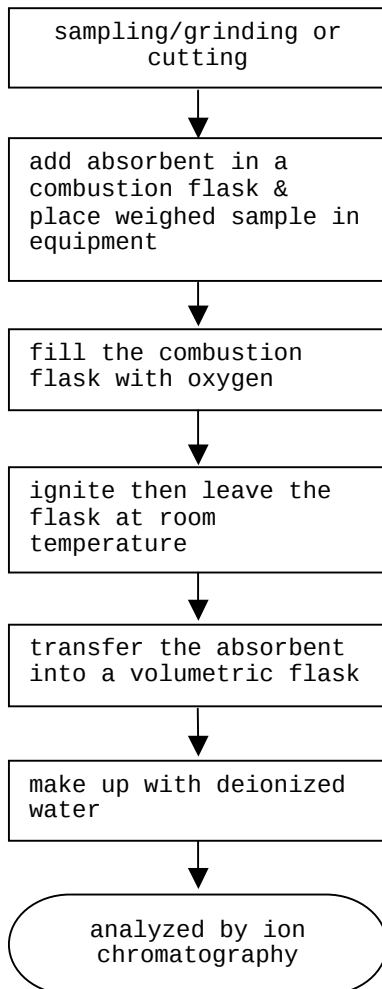
Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345662

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

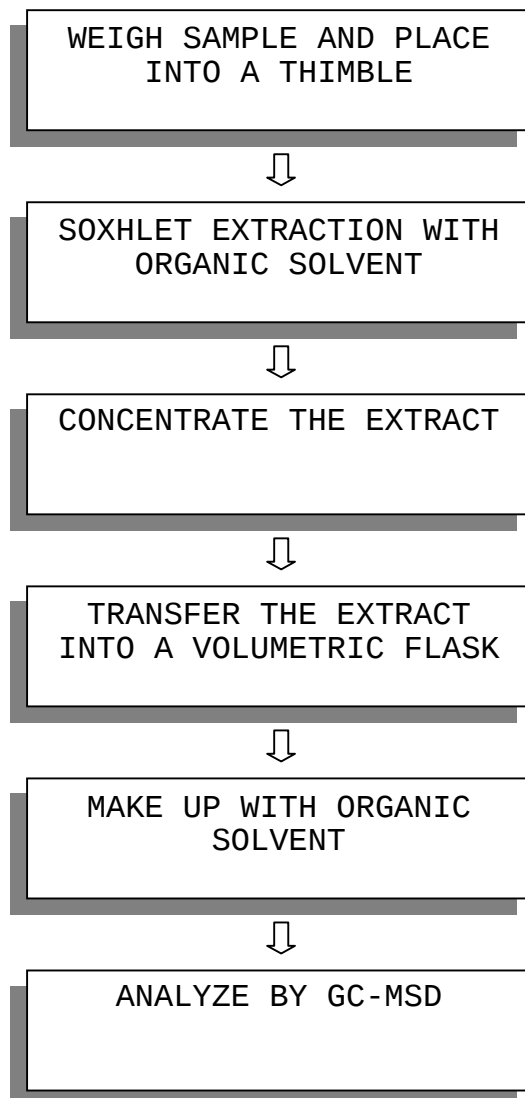
TESTING ITEM T	TESTING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

*****
TO BE CONTINUED

TESTS CONDUCTED

4 PHthalate Content Test

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND</u> RESULT	<u>(%,W/W)</u>	<u>LIMIT(%,W/W)</u> <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

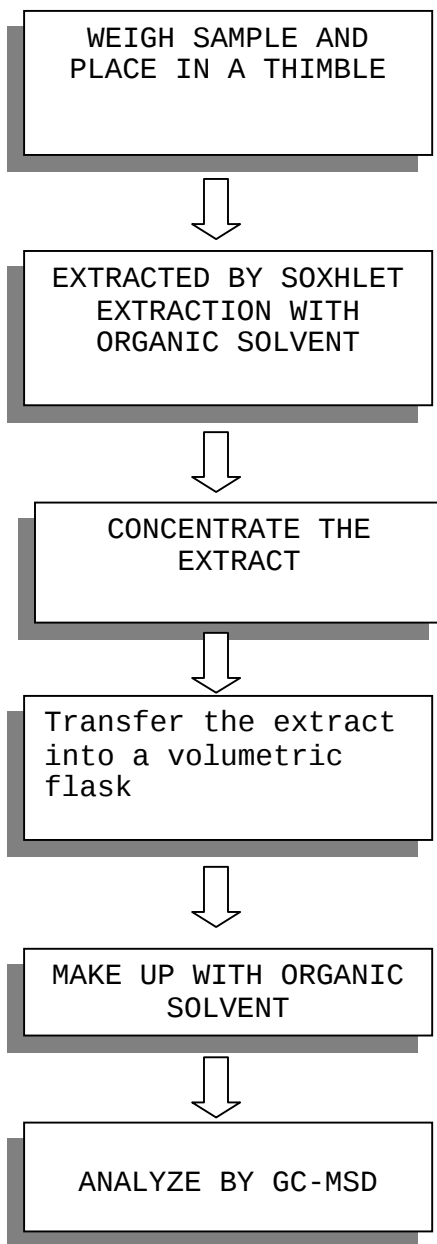
TESTING PERIOD : OCT.15, 2012 TO OCT.19, 2012

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

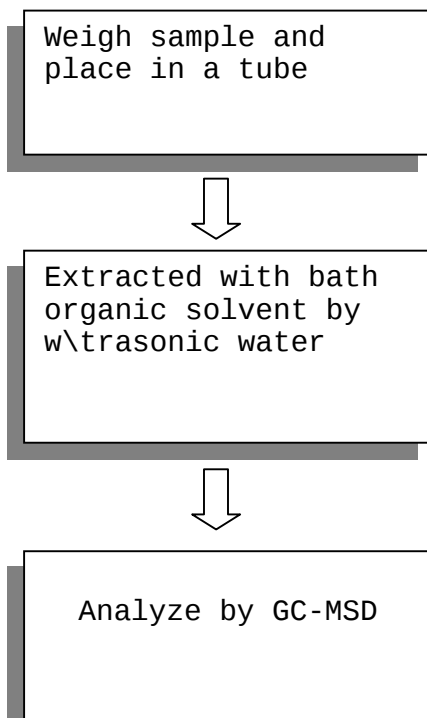


TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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TEST REPORT

NUMBER: SH AH00345415

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
AT TN: A.DIVIETRO/D.UNTIEDT

DATE: OCT 26, 2012

SAMPLE DESCRIPTION:

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

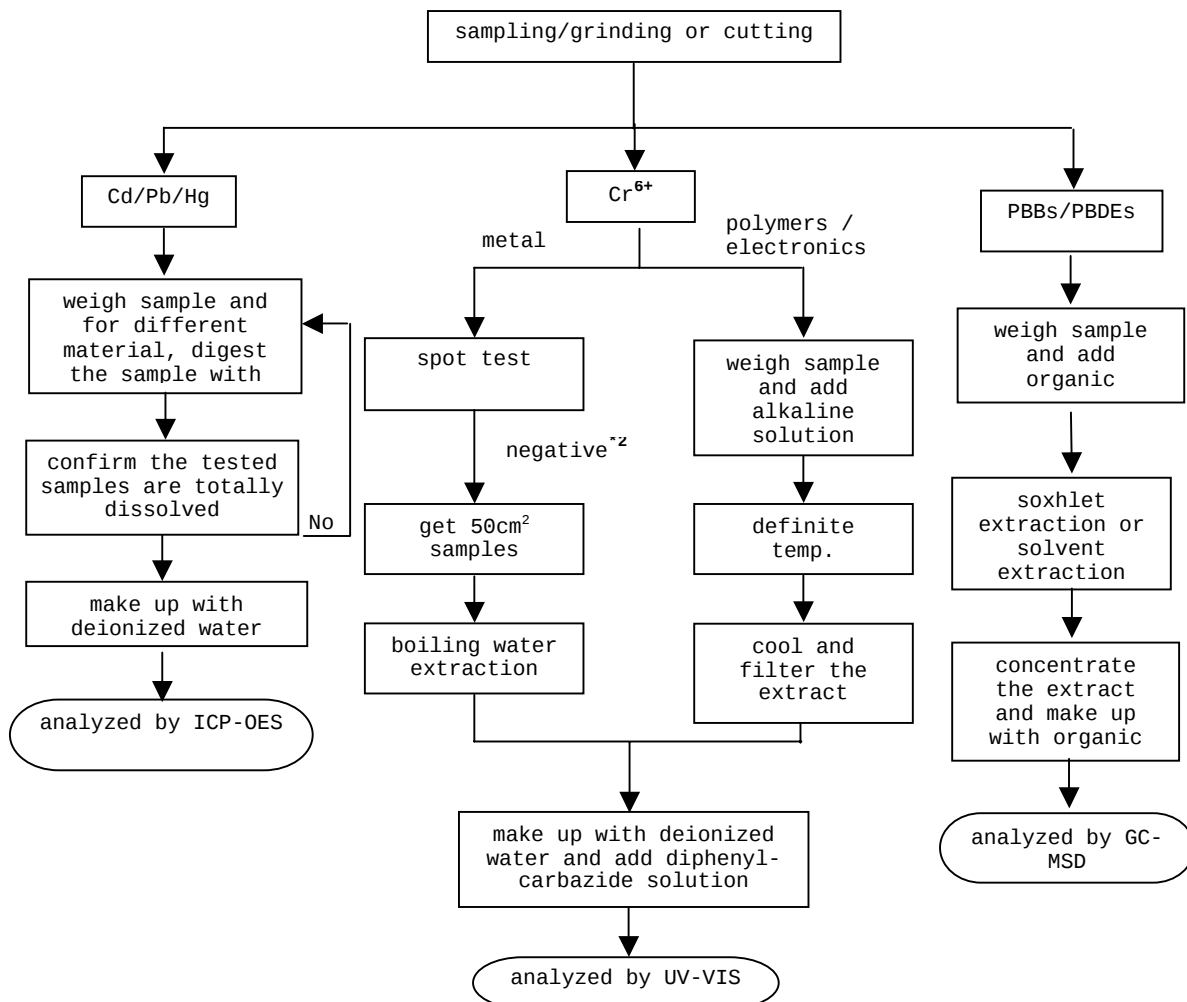
Testing Item T	Testing Method R	Reporting Limit
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in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

TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

**TEST REPORT**

NUMBER: SH AH00345415

TESTS CONDUCTED

2 (I) Test Result Summary :

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

Remarks: ppm = Parts per million = mg/kg

N D = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

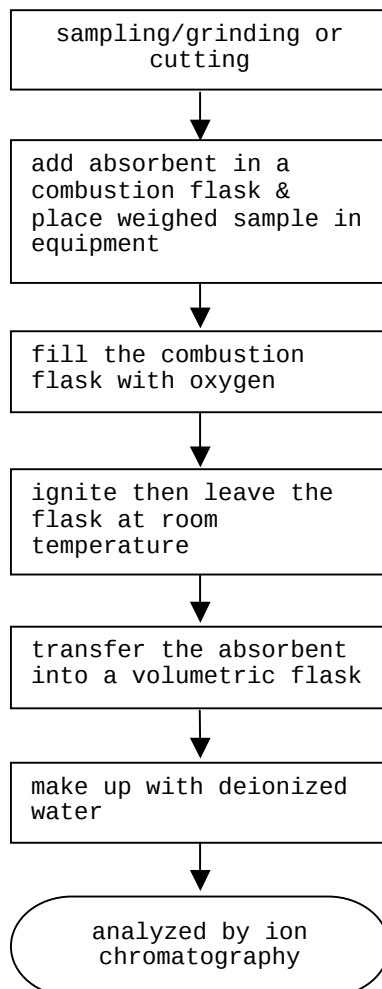
Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345415

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

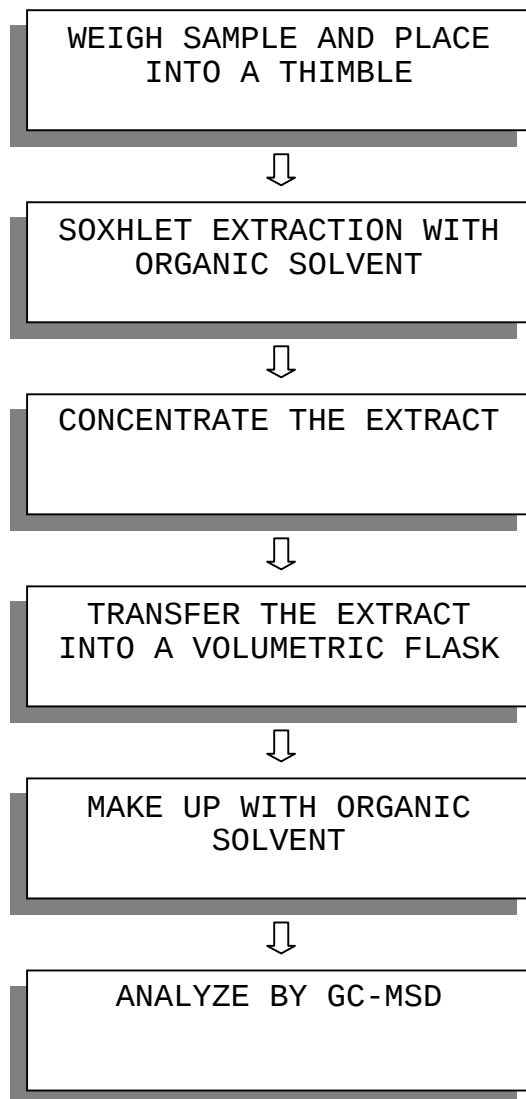
(B) TEST METHOD :

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

TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT



TO BE CONTINUED

TESTS CONDUCTED

4 PHthalate Content Test

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND</u> RESULT	<u>(%,W/W)</u>	<u>LIMIT(%,W/W)</u> <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

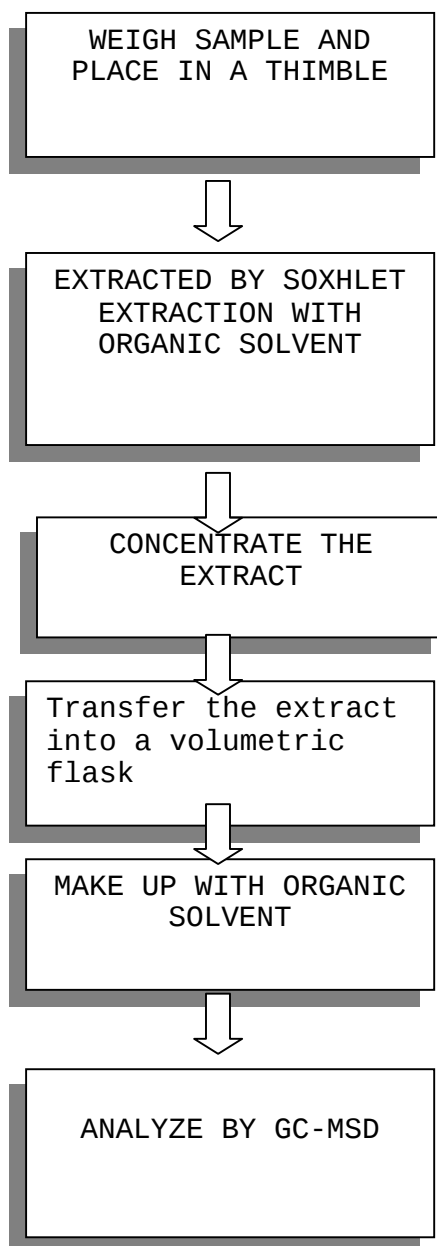
REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO US CONSUMER PRODUCT SAFETY IMPROVEMENT ACT 2008 FOR PROHIBITION ON SALE OF CERTAIN PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)
ND = NOT DETECTED

TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

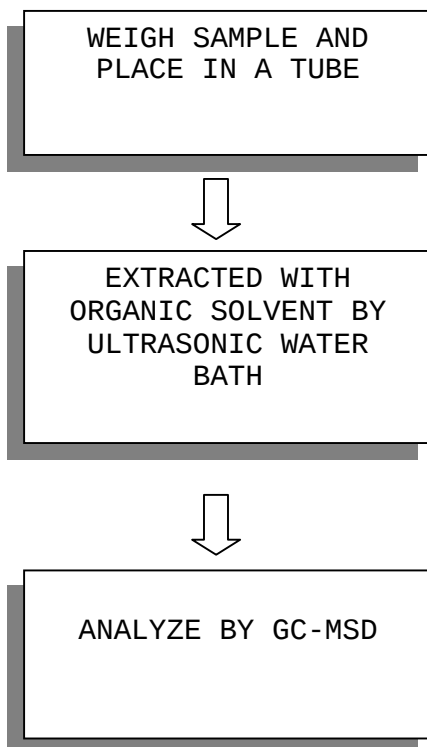
TEST FOR PHTHALATES CONTENTS (EN14372)



TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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TEST REPORT

NUMBER: SH AH00345432

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
AT TN: A.DIVIETRO/D.UNTIEDT

DATE: OCT 29, 2012

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 :

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

(III) Test Method:

Testing Item T	Testing Method R	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

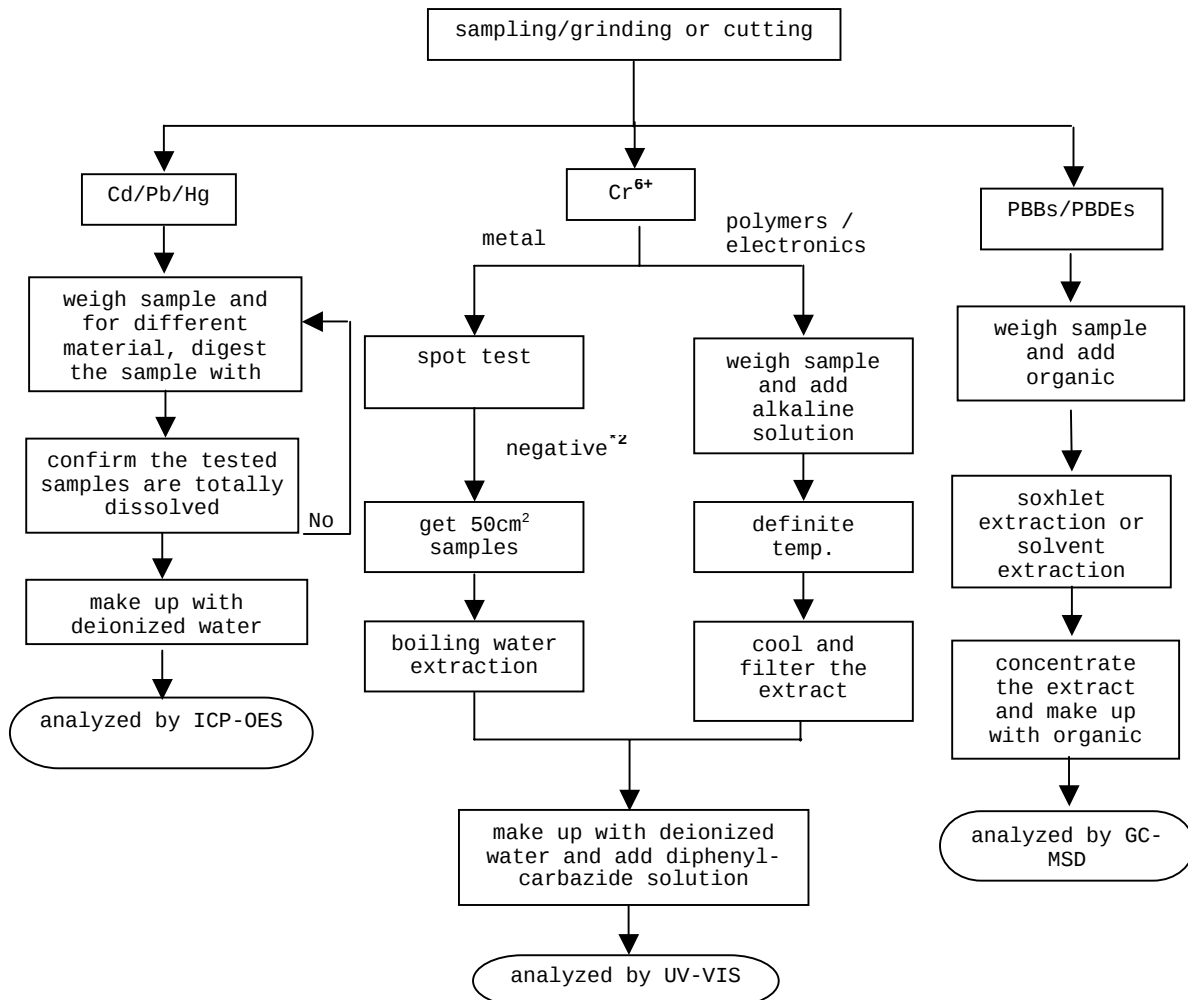
TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

**TEST REPORT**

NUMBER: SH AH00345432

TESTS CONDUCTED

2 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	8600
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million = mg/kg

N D = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

Remark: Reporting limit = Quantitation limit of analyte in sample

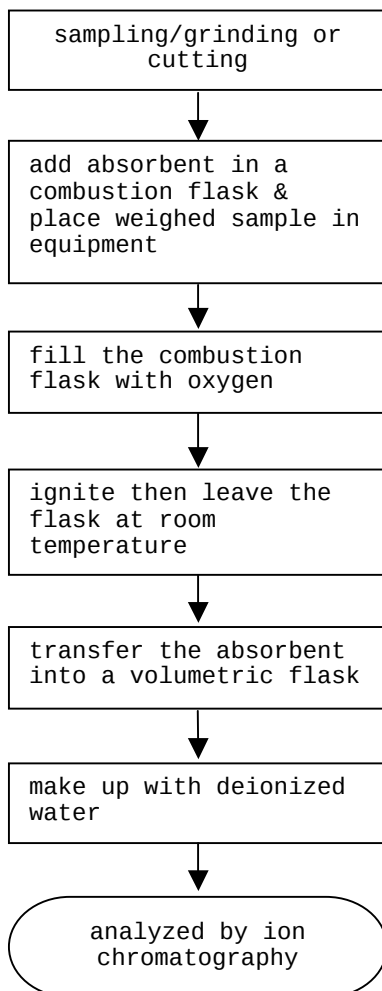
TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content

Reference Standard: EN 14582



TO BE CONTINUED

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

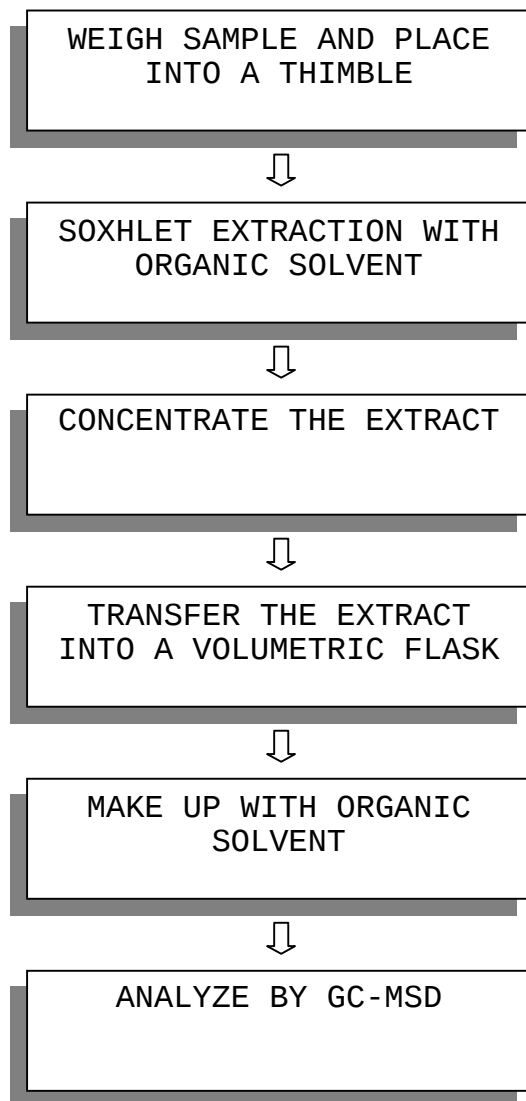
<u>TESTING ITEM T</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

*****
TO BE CONTINUED

TESTS CONDUCTED

4 PHthalate Content Test

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

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

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

DETECTION LIMIT = 0.01%(W/W)
ND = NOT DETECTED

5 PHthalate Content Test

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

<u>TESTED COMPOUND RESULT</u>	<u>(%,W/W)</u>	<u>LIMIT(%,W/W)</u> <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 FOR PROHIBITION ON SALE OF CERTAIN PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)
ND = NOT DETECTED

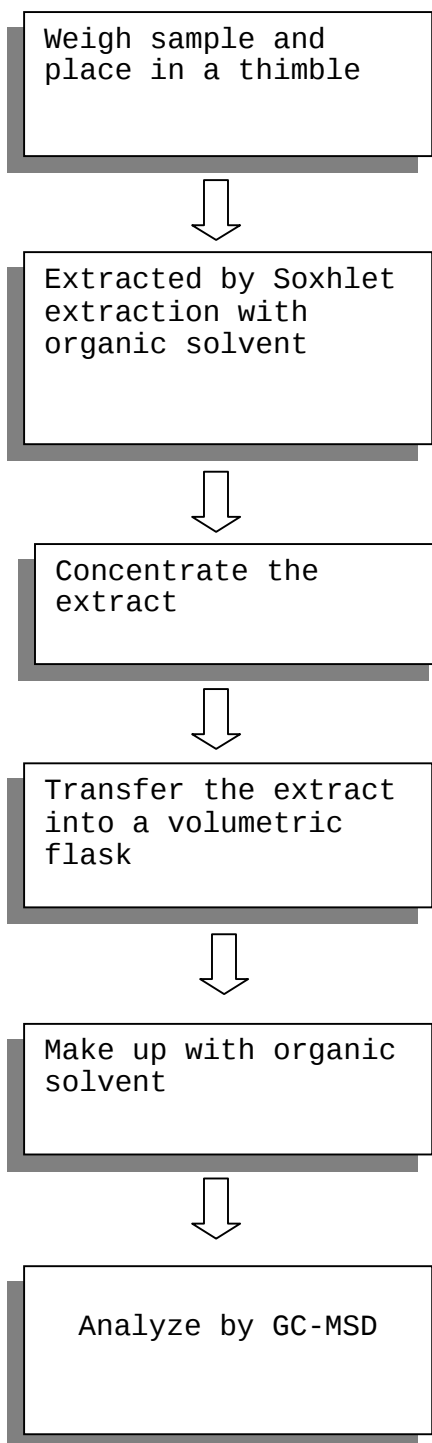
DATE SAMPLE RECEIVED: OCT.15, 2012

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

TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

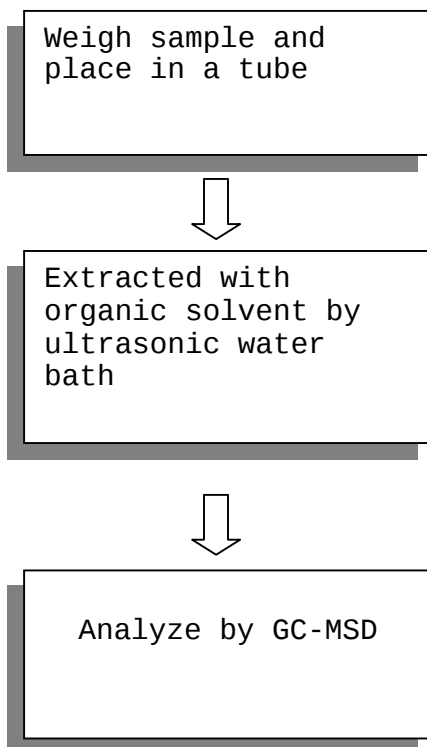
TEST FOR PHTHALATES CONTENTS (EN14372)



TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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TEST REPORT

NUMBER: SH AH00345639

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATT N: A.DIVIETRO/D.UNTIEDT

DATE: OCT 29, 2012

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

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)	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:

Testing Item T	Testing Method R	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

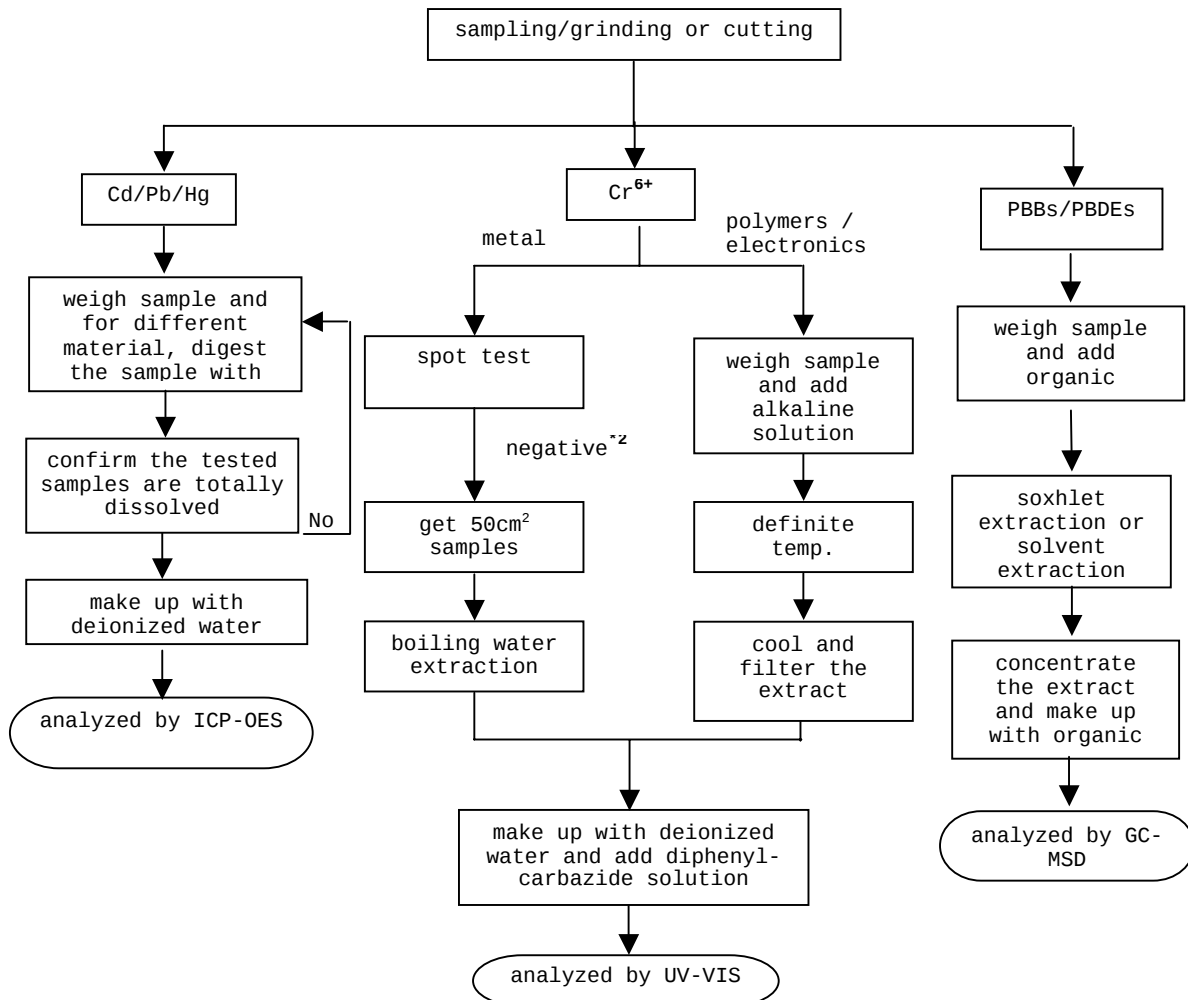
TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345639

TESTS CONDUCTED

2 (I) Test Result Summary :

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

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

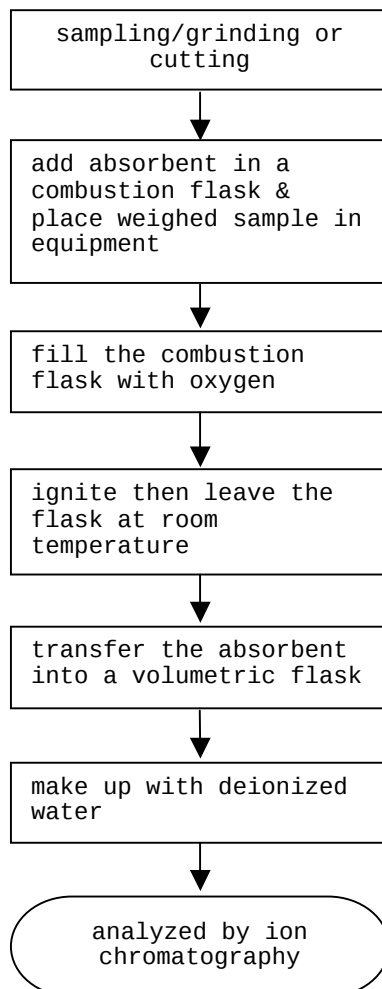
Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345639

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

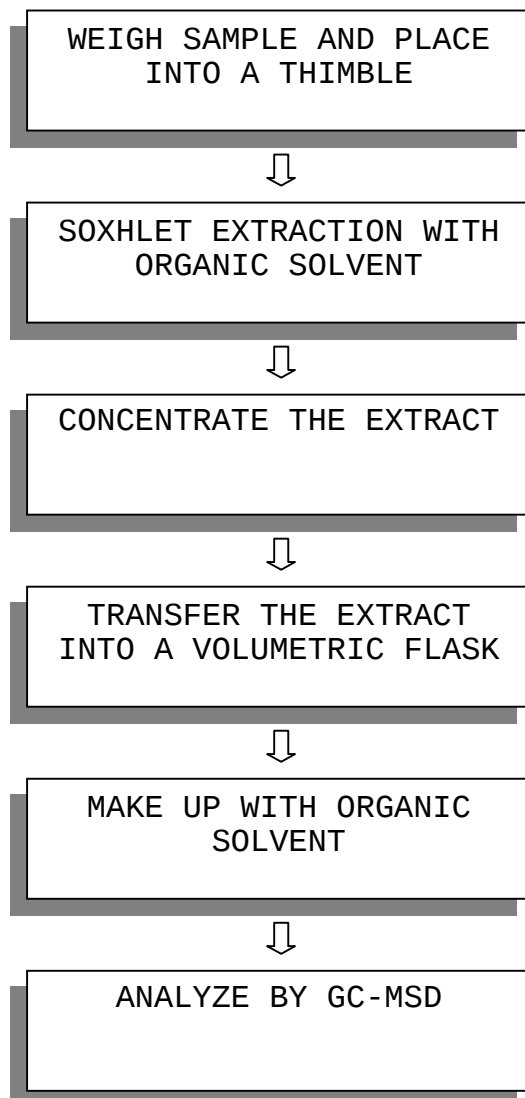
TESTING ITEM TE	TESTING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT

*****
TO BE CONTINUED

TESTS CONDUCTED

4 PHT HALATE CONTENT TEST

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND R</u>	<u>ESULT (%.W/W)</u>	<u>LIMIT(%W/W)</u> <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

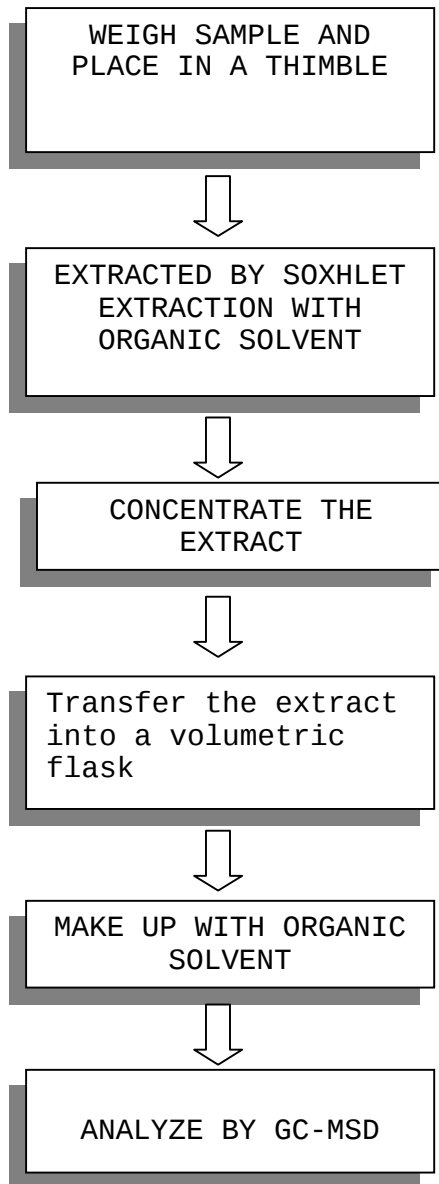
DATE SAMPLE RECEIVED : OCT.15, 2012
TESTING PERIOD : OCT.15, 2012 TO OCT.18, 2012

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

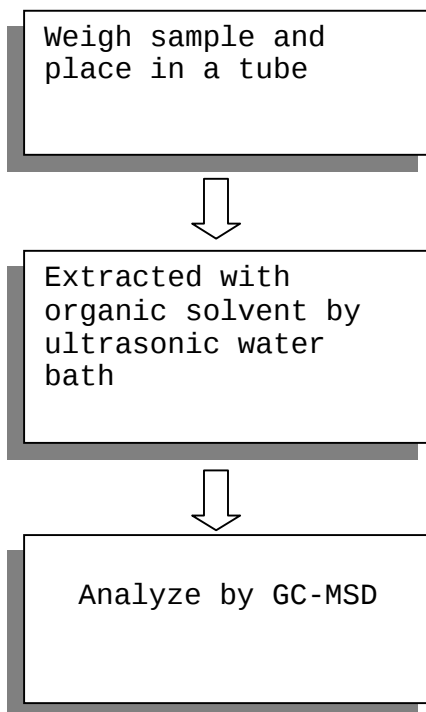


TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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TEST REPORT

NUMBER: SH AH00345659

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
AT TN: A.DIVIETRO/D.UNTIEDT

DATE: OCT 26, 2012

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 :

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

(III) Test Method:

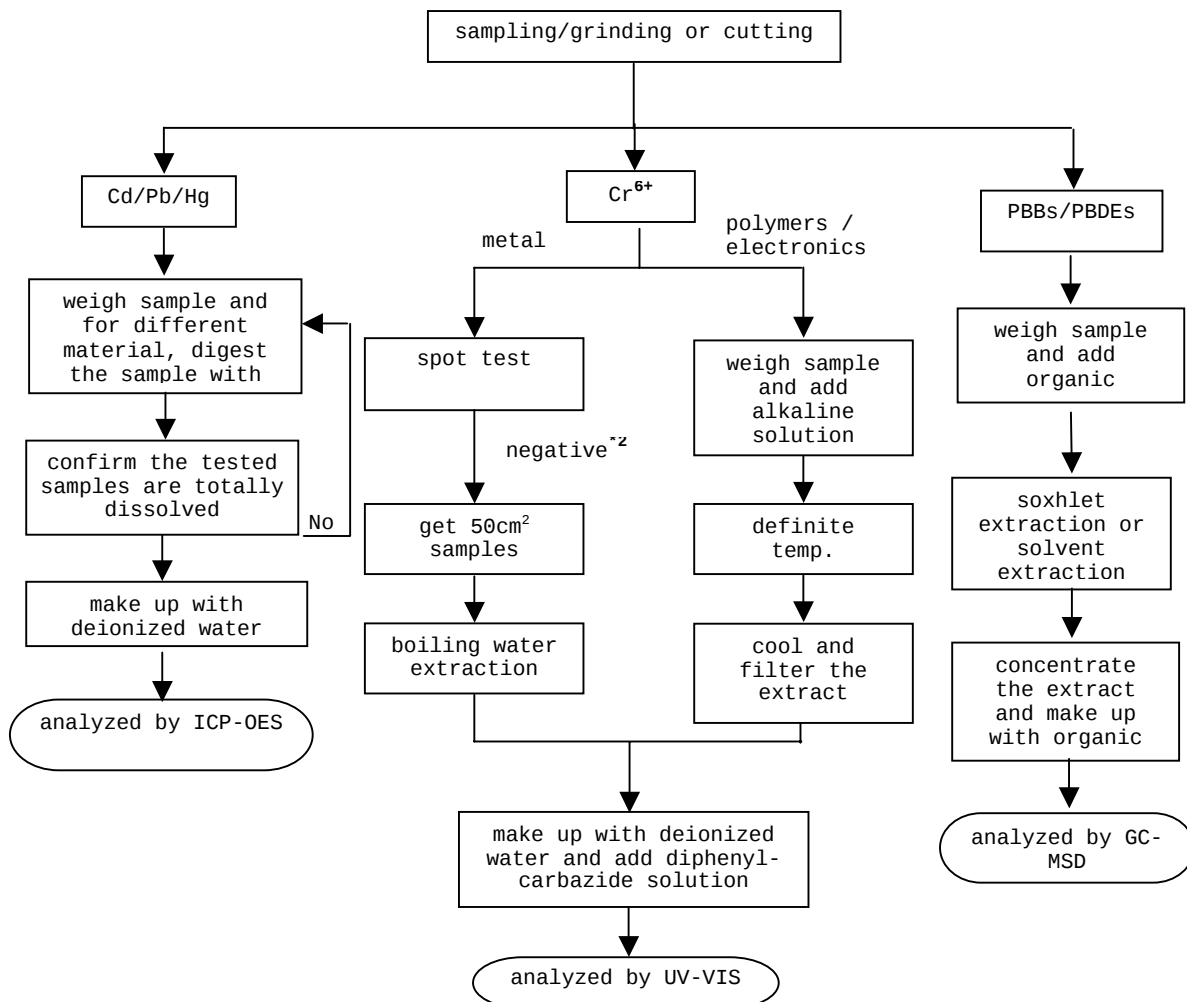
Testing Item T	Testing Method R	Reporting Limit
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in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

TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

**TEST REPORT**

NUMBER: SH AH00345659

TESTS CONDUCTED

2 (I) Test Result Summary :

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

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

N D = Not detected

Responsibility Of Chemist : Ken He

(III) Test Method:

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

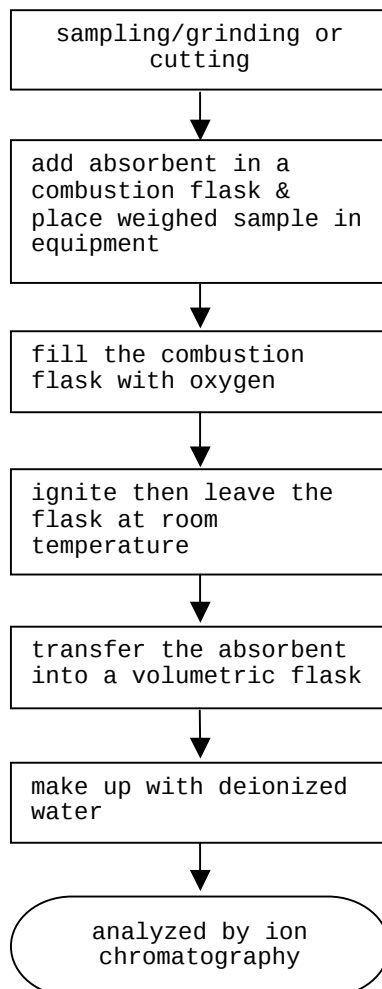
Remark: Reporting limit = Quantitation limit of analyte in sample

TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content
Reference Standard: EN 14582



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345659

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

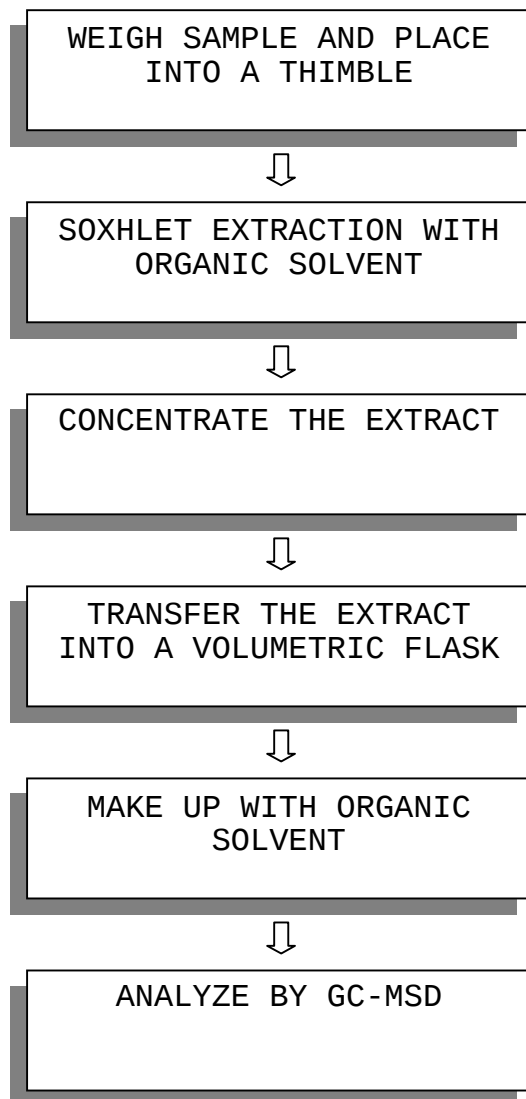
(B) TEST METHOD :

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

TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT



TO BE CONTINUED

TESTS CONDUCTED

4 PHthalate Content Test

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND</u> RESULT	<u>(%,W/W)</u>	<u>LIMIT(%,W/W)</u> <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

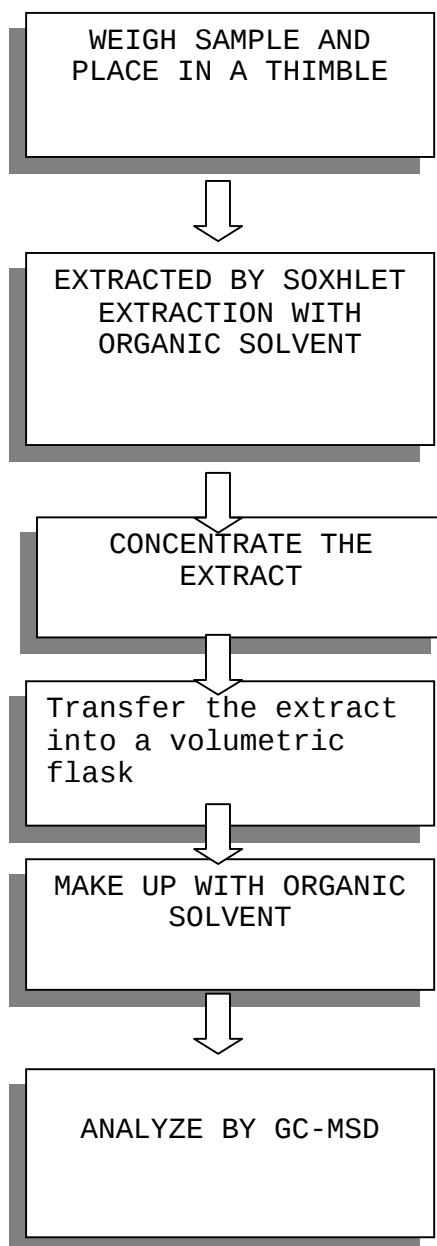
REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO US CONSUMER PRODUCT SAFETY IMPROVEMENT ACT 2008 FOR PROHIBITION ON SALE OF CERTAIN PRODUCTS CONTAINING SPECIFIED PHTHALATES.

DETECTION LIMIT = 0.01%(W/W)
ND = NOT DETECTED

TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

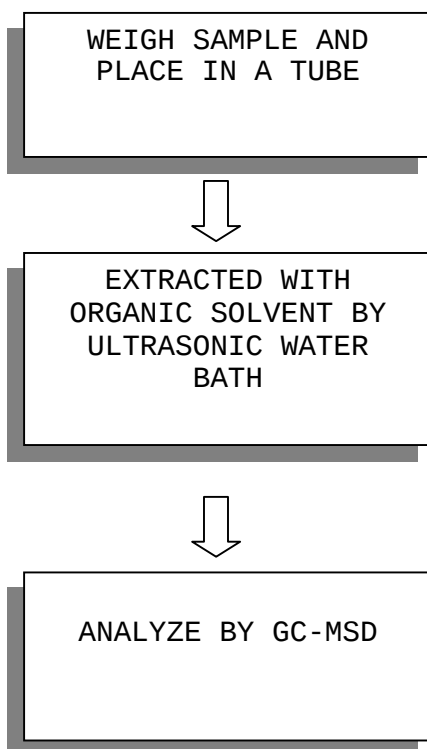
TEST FOR PHTHALATES CONTENTS (EN14372)



TO BE CONTINUED

TESTS CONDUCTED
MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED

*****
END OF REPORT

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TEST REPORT

NUMBER: SH AH00345657

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATT N: A.DIVIETRO/D.UNTIEDT

DATE: OCT 29, 2012

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **PALE BLUE INK.**
PART DESCRIPTION : INK-PALE BLUE.
PART NUMBER : 425913.
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)	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:

Testing Item T	Testing Method R	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

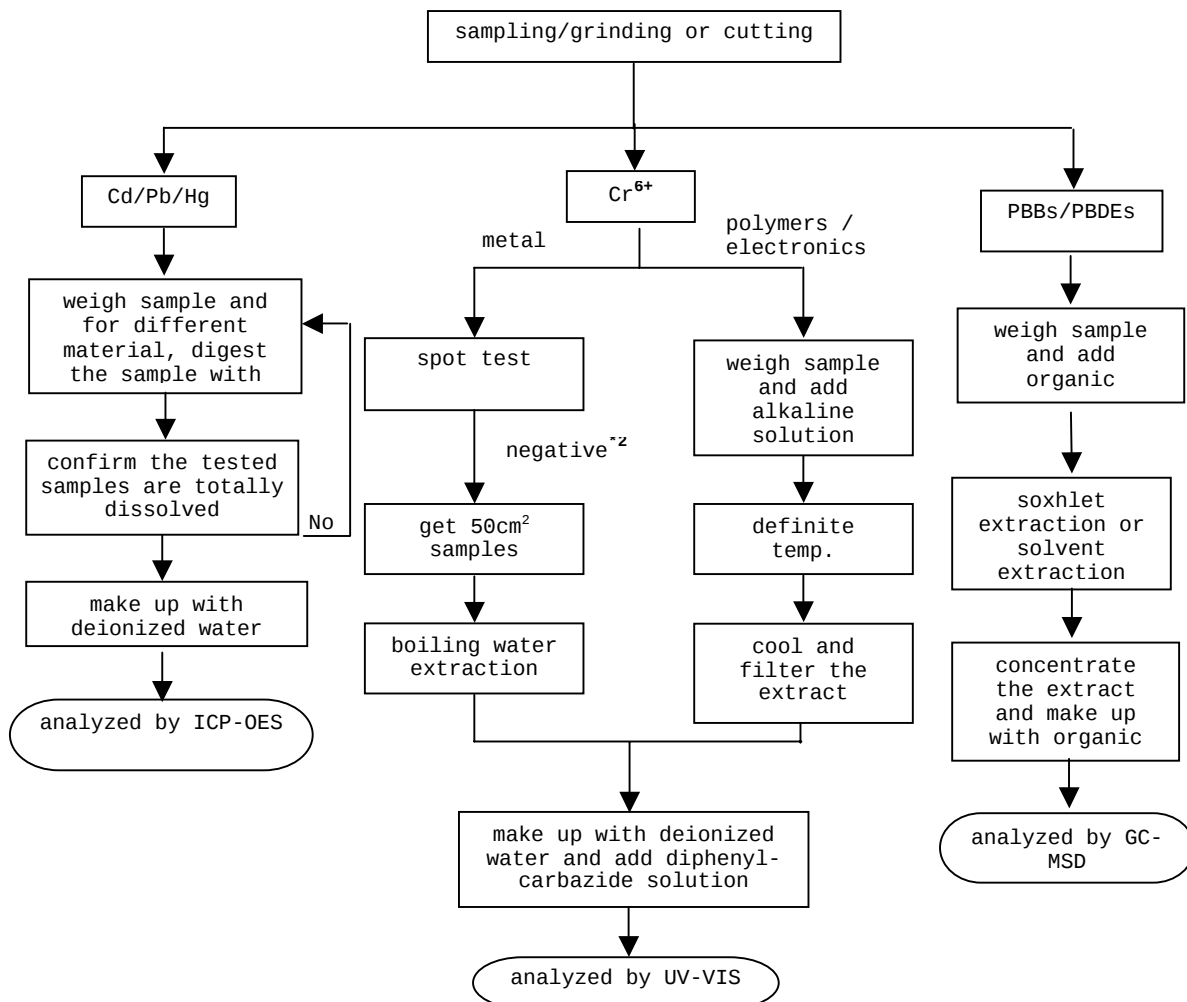
TO BE CONTINUED

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:

Material	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.

TO BE CONTINUED

**TEST REPORT**

NUMBER: SH AH00345657

TESTS CONDUCTED

2 (I) Test Result Summary :

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

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

Responsibility Of Chemist : Leaf Liu

(III) Test Method:

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

Remark: Reporting limit = Quantitation limit of analyte in sample

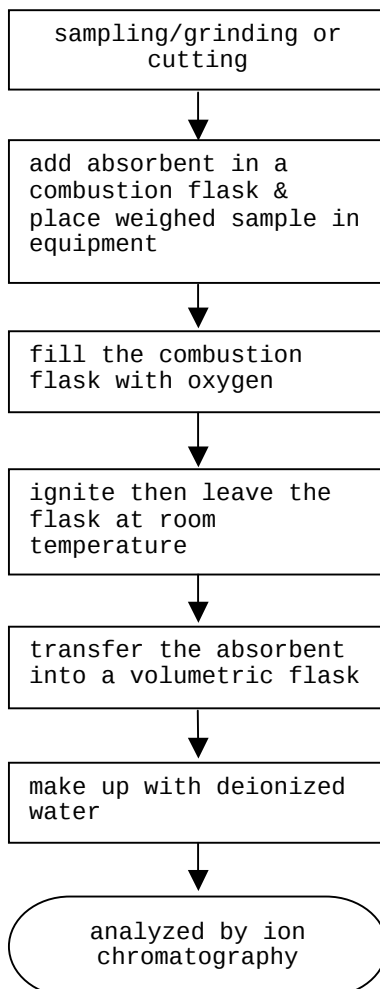
TO BE CONTINUED

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Halogen Content

Reference Standard: EN 14582

*****
TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345657

TESTS CONDUCTED

3 (A) TEST RESULT SUMMARY:

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

REMARKS:

ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

(B) TEST METHOD :

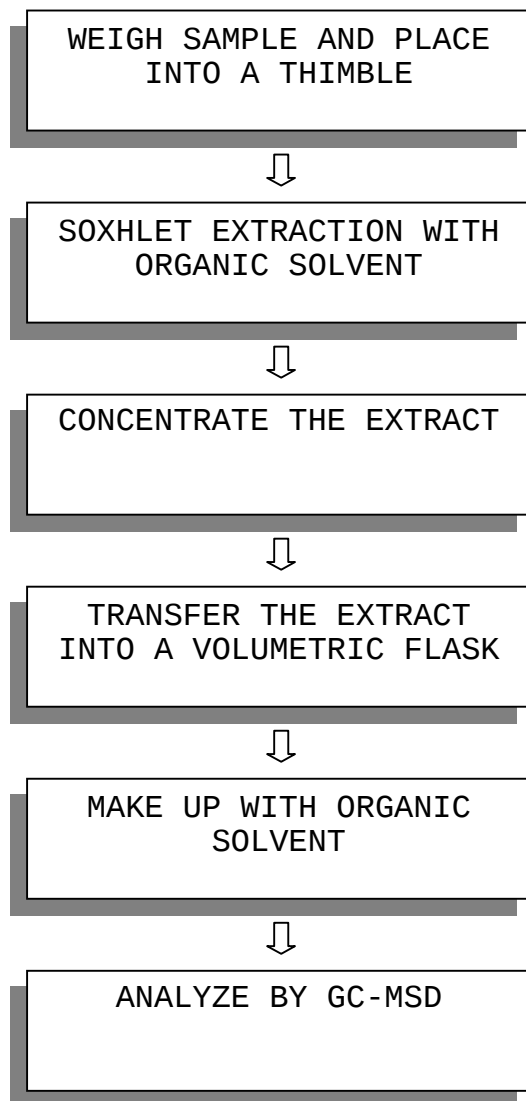
TESTING ITEM TE	TESTING METHOD	REPORTING LIMIT
HBCD (HEXABROMOCYCLODODECANE)	WITH REFERENCE TO USEPA 3540C, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS	10 ppm

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR HBCD (HEXABROMOCYCLODODECANE) CONTENT



TO BE CONTINUED



TEST REPORT

NUMBER: SH AH00345657

TESTS CONDUCTED

4 PHT HALATE CONTENT TEST

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

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

REMARK: THE ABOVE LIMIT WAS QUOTED ACCORDING TO ANNEX XVII ITEMS 51 & 52 OF THE REACH REGULATION (EC) NO. 1907/2006 & AMENDMENT NO.552/2009 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.

<u>TESTED COMPOUND R</u>	<u>ESULT (%W/W)</u>	<u>LIMIT(%W/W)</u> <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

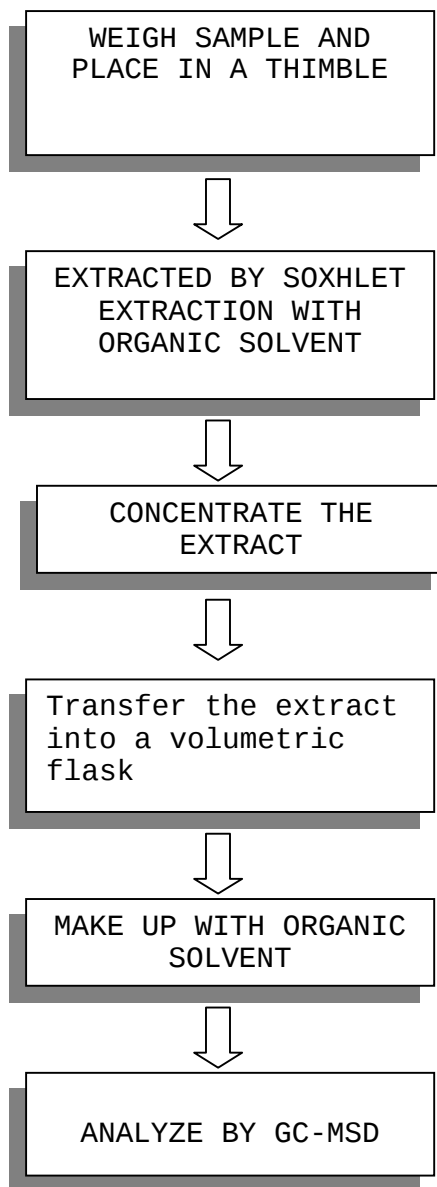
DATE SAMPLE RECEIVED : OCT.15, 2012
TESTING PERIOD : OCT.15, 2012 TO OCT.19, 2012

TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

TEST FOR PHTHALATES CONTENTS (EN14372)

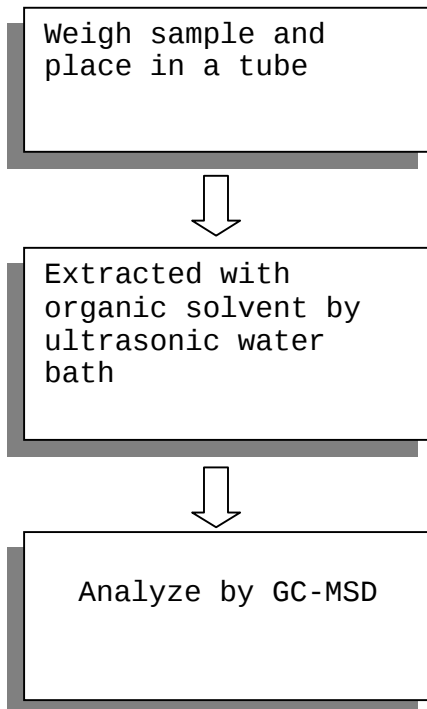


TO BE CONTINUED

TESTS CONDUCTED

MEASUREMENT FLOWCHART:

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



TO BE CONTINUED

TESTS CONDUCTED



END OF REPORT

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