# ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: Maxi Slo-Blo Blade Fuse

Product #: 999 Series

Issue Date: August 28, 2012

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: KRISTEEN BACILA

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the Maxi Slo-Blo Blade Fuse Series 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 identifed 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 | 999000-503 | Housing | 3-11 |
| 2 | 425484 | Foil | 12-17 |
| 3 | 057357 | Housing - Basic Material | 18-26 |
| 4 | 057884 | Colorant | 27-35 |
| 5 | 955410 | Zinc Element | 36-40 |
| 6 | 692536 | Solder | 41-45 |

**Test Report** Number : TWNC00235728

Applicant: Littelfuse, S.A. de C.V. Date : Dec 08, 2011
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila, Mexico

Sample Description:
One (1) group of submitted samples said to be :
Part Description : MAXI HOUSING
Part Number : 999000-503
Date Sample Received : Dec 06, 2011
Date Test Started : Dec 06, 2011

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited


K. Y. Liang
Director





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00235728

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Orange Plastic |
| **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 |
| **Halogen Content** | |
| Fluorine (F) | ND |
| Chlorine (Cl) | ND |
| Bromine (Br) | ND |
| Iodine (I) | ND |



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00235728

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Orange Plastic |
| **Phthalates** | |
| Di(2-ethylhexyl) Phthalate (DEHP) | ND |
| Dibutyl Phthalate (DBP) | ND |
| Benzyl Butyl Phthalate (BBP) | ND |
| **Others** | |
| Hexabromocyclododecane (HBCDD) | ND |

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

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

Date Sample Received : Dec 06, 2011
Test Period : Dec 06, 2011 To Dec 08, 2011

(Ⅱ) RoHS Requirement:

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

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



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(Ⅲ) Test Method:

| Test Item | Test Method | Reporting Limit |
|---|---|---|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI ($Cr^{6+}$) content | With reference to IEC 62321 edition 1.0:2008 in annex 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 |
| Halogen Content | With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by ion chromatography | 50 ppm |
| Phthalates | With reference to EN 14372: 2004, by solvent extraction and determined by GC-MSD | 50 ppm |
| Hexabromocyclododecane (HBCDD) | With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD | 10 ppm |

Remark: Reporting limit = Quantitation limit of analyte in sample



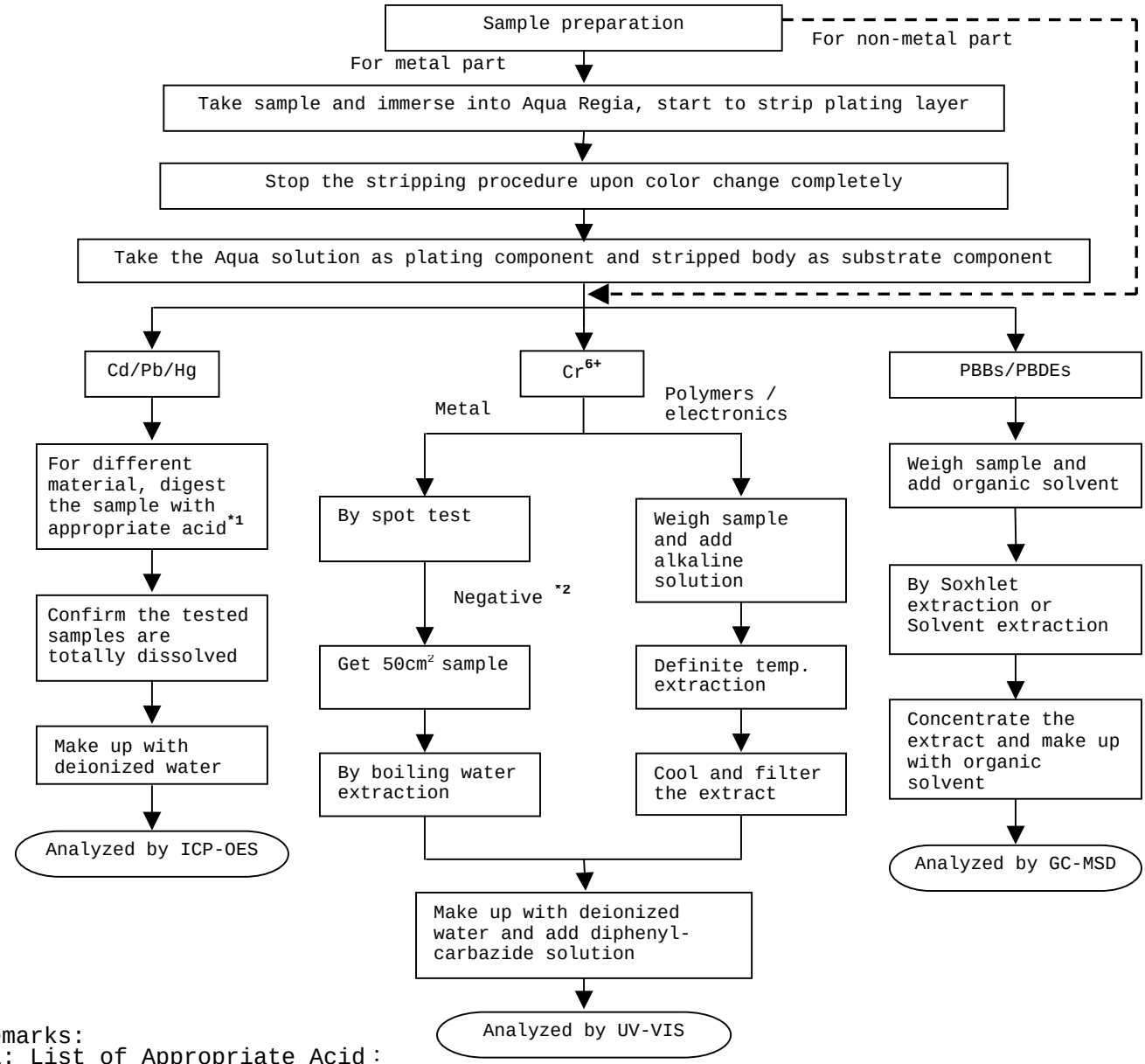
**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test 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 | $HNO_3, HCl, HF, H_2O_2, H_3BO_3$ |
| Metals | $HNO_3, HCl, HF$ |
| Electronics | $HNO_3, HCl, H_2O_2, HBF_4$ |

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

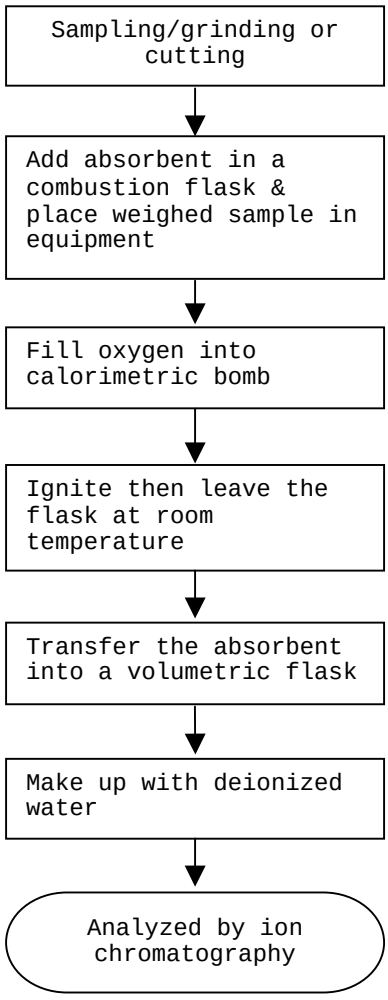


**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content
Reference Standard：EN 14582



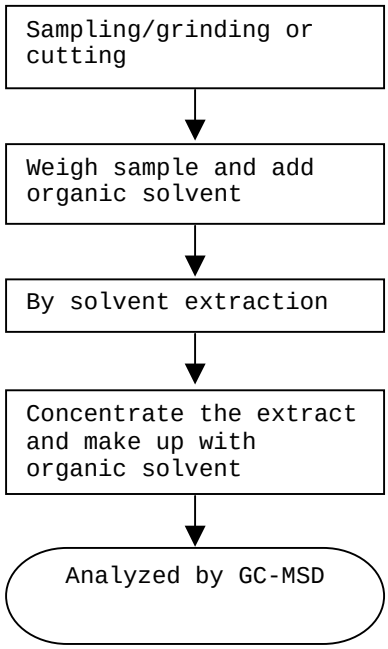



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004



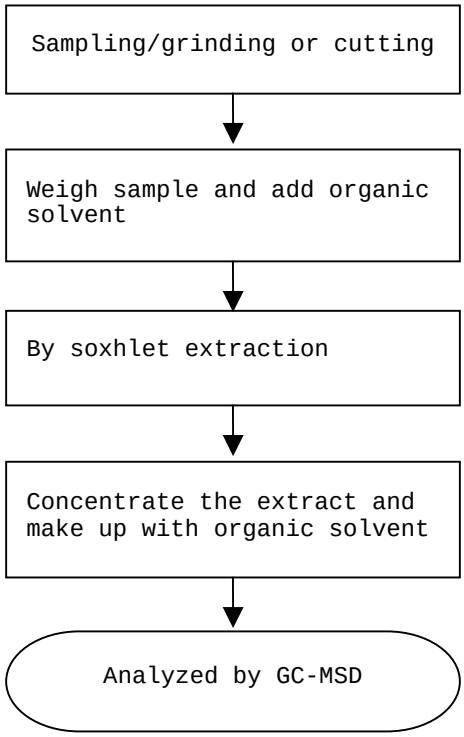



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)
Reference Standard：USEPA 3540C




End of Report



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00235728

Test Conducted

**Photo**




**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Report No.: MX11-1400
Date : 2011-07-12

# TEST REPORT

## APPLICANT

Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martínez 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila
Ing. María Valdez

## SAMPLE DESCRIPTION

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

| | |
|---|---|
| Sample Description | NP |
| Item No. | 1) PN 425484 Foil |
| Country of Origin | NP |
| Buyer's Name | NP |
| Supplier's Name | NP |
| Date sample received | 2011-06-27 |
| Testing period | 2011-06-28 to 2011-07-11 |

**********

## TEST CONDUCTED

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

**********

## CONCLUSION

| Sample Number | Testing item | Conclusion | Failed component | Failed result |
|---|---|---|---|---|
| 1 | PN 425484 Foil | Pass<br>See Result summary | --- | --- |

**********

000002





**Intertek Testing Services de México, S.A. de C.V.**
**Poniente 134 No. 660, Col. Industrial Vallejo**
**C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150**
www.intertek.com

Report No.: MX11-1400
Date : 2011-07-12

**TEST CONDUCTED**

Samples:

1) PN 425484 Foil

**TEST RESULT SUMMARY FOR RoHS DIRECTIVE :**

| TESTING ITEM | Ω RESULT (ppm) (1) | Limit |
|---|---|---|
| Cadmium (Cd) content | ND | 0,01% (100 ppm) |
| Lead (Pb) content | ND | 0,1% (1000 ppm) |
| Mercury (Hg) content | ND | 0,1% (1000 ppm) |
| Chromium (VI) ($Cr^{6+}$) | ND | 0,1% (1000 ppm) |
| POLYBROMINATED BIPHENYLS (PBBs) Total | ND | 0,1% (1000 ppm) |
| Monobromobiphenyl (MonoBB) | ND | --- |
| Dibromobiphenyl (DiBB) | ND | --- |
| Tribromobiphenyl (TriBB) | ND | --- |
| Tetrabromobiphenyl (TetraBB) | ND | --- |
| Pentabromobiphenyl (PentaBB) | ND | --- |
| Hexabromobiphenyl (HexaBB) | ND | --- |
| Heptabromobiphenyl (HeptaBB) | ND | --- |
| Octabromobiphenyl (OctaBB) | ND | --- |
| Nonabromobiphenyl (NonaBB) | ND | --- |
| Decabromobiphenyl (DecaBB) | ND | --- |
| POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total | ND | 0,1% (1000 ppm) |
| Monobromodiphenyl (MonoBDE) | ND | --- |
| Dibromodiphenyl (DiBDE) | ND | --- |
| Tribromodiphenyl (TriBDE) | ND | --- |
| Tetrabromodiphenyl (TetraBDE) | ND | --- |
| Pentabromodiphenyl (PentaBDE) | ND | --- |
| Hexabromodiphenyl (HexaBDE) | ND | --- |
| Heptabromodiphenyl (HeptaBDE) | ND | --- |
| Octabromodiphenyl (OctaBDE) | ND | --- |
| Nonabromodiphenyl (NonaBDE) | ND | --- |
| Decabromodiphenyl (DecaBDE) | ND | --- |

000003





**Intertek Testing Services de México, S.A. de C.V.**
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1400
Date : 2011-07-12

**TEST CONDUCTED**

Samples:

1) PN 425484 Foil

**TEST RESULT SUMMARY FOR RoHS DIRECTIVE :**

| TESTING ITEM | ▲ RESULT (ppm) |
|---|---|
| | (1) |
| Fluor (F) content | ND |
| Chlorine (Cl) content | 15 517 |
| Bromine (Br) content | ND |
| Iodine (I) content | ND |

ppm = parts per million based on dry weight of sample.
$\mu g/cm^2$ = microgram per square centimeter.
mg/kg WITH $50cm^2$ = milligram per kilogram with 50 square centimeter.
< = less than.
ND = Not detected.
The above limits were quoted from 2002/95/EC and amendment 2005/618/EC for homogeneous material.

These Accreditations only apply for the methods listed in such. Not accredited under EMA Ω.

Prepared and checked by :
For Intertek

Laboratory Manager

The Official Mexican Standard NOM-008-SCFI-1993 establishes like separator decimal the comma (,).

NOTE :DecaBDE IN POLYMERIC APPLICATIONS IS EXEMPTED ACCORDING TO ROHS DIRECTIVE AMENDMENT 2005/717/EC.

# =ACCORDING TO IEC 62321, A POSITIVE RESULT INDICATES THE PRESENCE OF Cr(VI) COATING. IT IS THE Cr(VI) CONCENTRATION DETECTED IN THE BOILING-WATER-EXTRACTION SOLUTION AND SHOULD NOT BE INTERPRETED AS THE Cr(VI) CONCENTRATION IN THE COATING LAYER OF THE SAMPLE.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-1400-01 WERE TESTED TOGETHER.

000004



**Intertek Testing Services de México, S.A. de C.V.**
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1400
Date : 2011-07-12

## Test method :

| Sample Number | Testing item | Ω Testing method | Quality control Batch: | Analysis Date: | Analyzed By: | Reporting limit ppm |
|---|---|---|---|---|---|---|
| 1 | Chromium VI ($Cr^{6+}$) content | With reference to USEPA 3060, by EPA 7196 | QHU2010-61p87 | 2011-07-05 | MELA | 20,0 |

| Sample Number | Testing item | Ω Testing method | Quality control Batch: | Analysis Date: | Analyzed By: | Reporting limit ppm |
|---|---|---|---|---|---|---|
| 1 | POLYBROMINATED BIPHENYLS (PBBs) | Determined by GC-MSD | 2011-000415-PCL | 2011-07-11 | ▲ CONT | 50,0 |
| 1 | POLYBROMINATED DIPHENYL ETHERS (PBDEs) | Determined by GC-MSD | 2011-000415-PCL | 2011-07-11 | ▲ CONT | 50,0 |

| Sample Number | Testing item | Ω Testing method | Quality control Batch: | Analysis Date: | Analyzed By: | Reporting limit ppm |
|---|---|---|---|---|---|---|
| 1 | Fluor | With reference to EN 14582:2007by calorimetric bomb method with oxygen and determined by ion chromatography | 2011-000415-PCL | 2011-07-11 | ▲ CONT | 30 |
| 1 | Chlorine | With reference to EN 14582:2007by calorimetric bomb method with oxygen and determined by ion chromatography | 2011-000415-PCL | 2011-07-11 | ▲ CONT | 30 |
| 1 | Bromine | With reference to EN 14582:2007by calorimetric bomb method with oxygen and determined by ion chromatography | 2011-000415-PCL | 2011-07-11 | ▲ CONT | 30 |
| 1 | Iodine | With reference to EN 14582:2007by calorimetric bomb method with oxygen and determined by ion chromatography | 2011-000415-PCL | 2011-07-11 | ▲ CONT | 30 |

| Sample Number | Testing item | Ω Testing method | Quality control Batch: | Analysis Date: | Analyzed By: | Reporting limit ppm |
|---|---|---|---|---|---|---|
| 1 | Lead (Pb) content | With reference to USEPA 3052, by EPA 6010 | MET2011-12p24 | 2011-06-29 | MARY | 5,0 |

| Sample Number | Testing item | Ω Testing method | Quality control Batch: | Analysis Date: | Analyzed By: | Reporting limit ppm |
|---|---|---|---|---|---|---|
| 1 | Cadmium (Cd) content | With reference to USEPA 3052, by EPA 6010 | MET2011-12p24 | 2011-06-29 | MARY | 2,0 |

| Sample Number | Testing item | Ω Testing method | Quality control Batch: | Analysis Date: | Analyzed By: | Reporting limit ppm |
|---|---|---|---|---|---|---|
| 1 | Mercury (Hg) content | With reference to USEPA 7471 by USEPA 7471 | MET2011-12p26 | 2011-07-01 | RNC | 0,25 |

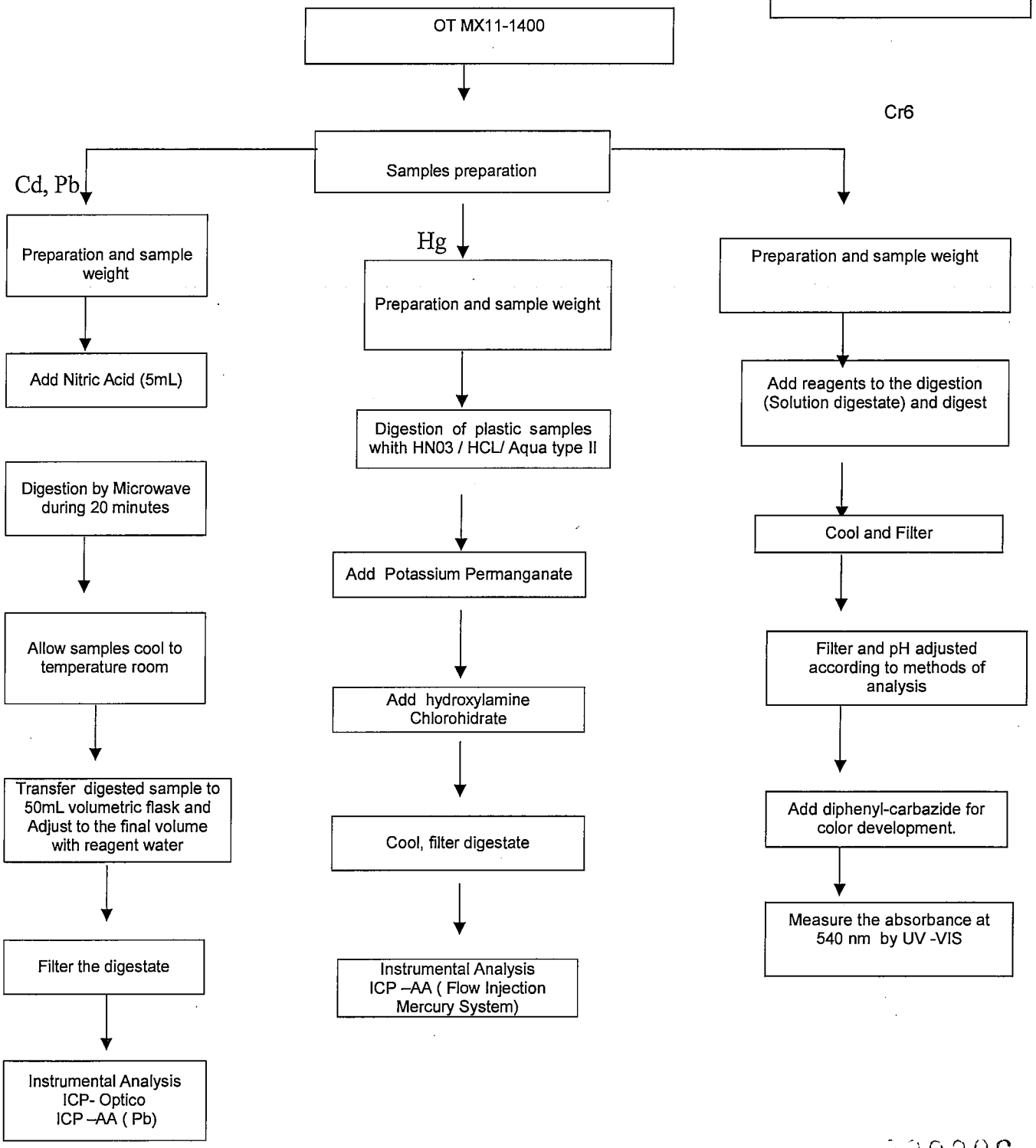
000005



**Intertek Testing Services de México, S.A. de C.V.**
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1400
Date: 2011-07-12

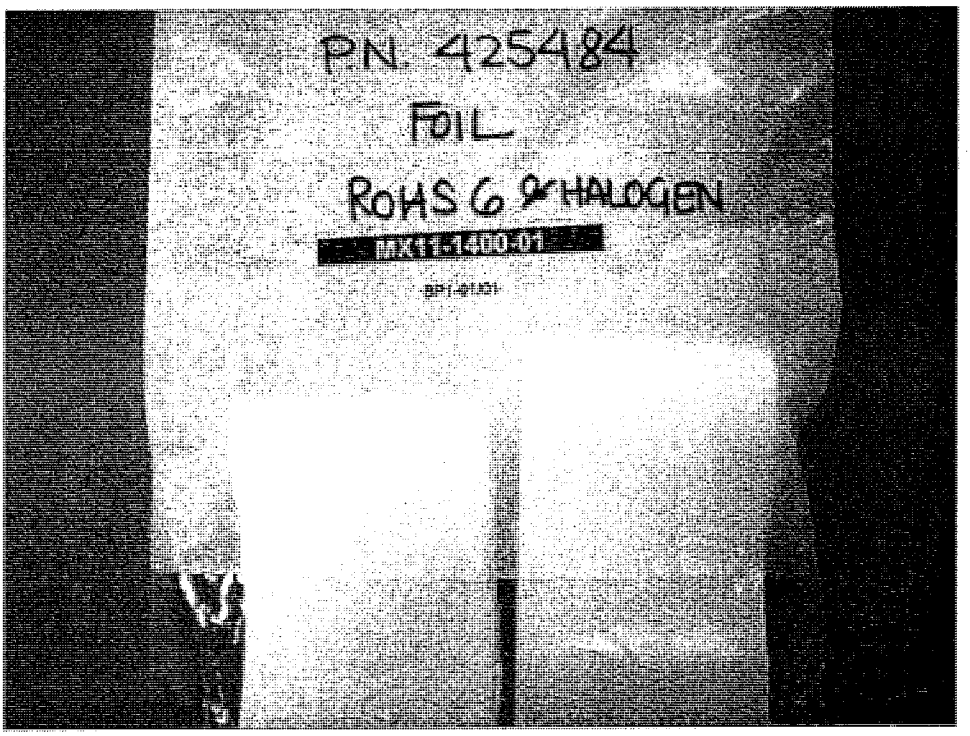
Plastic samples
Flow chart for sample: 1




000006



**Intertek Testing Services de México, S.A. de C.V.**
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com




030007

**Intertek Testing Services de México, S.A. de C.V.**
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

**Test Report**

Number : TWNC00240940

Date : Jan 19, 2012

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila, Mexico

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

| | |
|---|---|
| Part Description | : NYLON RESIN |
| Part Number | : 057357 |
| Date Sample Received | : Jan 16, 2012 |
| Date Test Started | : Jan 16, 2012 |

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited

K. Y. Liang
Director





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00240940

Test Conducted

(I) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Semitransparent Plastic Pellet |
| **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 |
| **Halogen Content** | |
| Fluorine (F) | ND |
| Chlorine (Cl) | ND |
| Bromine (Br) | ND |
| Iodine (I) | ND |



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00240940

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Semitransparent Plastic Pellet |
| **Phthalates** | |
| Di(2-ethylhexyl) Phthalate (DEHP) | ND |
| Dibutyl Phthalate (DBP) | ND |
| Benzyl Butyl Phthalate (BBP) | ND |
| **Others** | |
| Hexabromocyclododecane (HBCDD) | ND |

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

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

Date Sample Received : Jan 16, 2012
Test Period : Jan 16, 2012 To Jan 19, 2012

(Ⅱ) RoHS Requirement:

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

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



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00240940

Test Conducted

(Ⅲ) Test Method:

| Test Item | Test Method | Reporting Limit |
|---|---|---|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI ($Cr^{6+}$) content | With reference to IEC 62321 edition 1.0:2008 in annex 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-MS and further HPLC-DAD 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-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Halogen Content | With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph. | 50 ppm |
| Phthalates | With reference to ASTM D3421-75, by solvent extraction and determined by GC-MSD or GC-FID | 10 ppm |
| Hexabromocyclododecane (HBCDD) | With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD | 10 ppm |

Remark: Reporting limit = Quantitation limit of analyte in sample

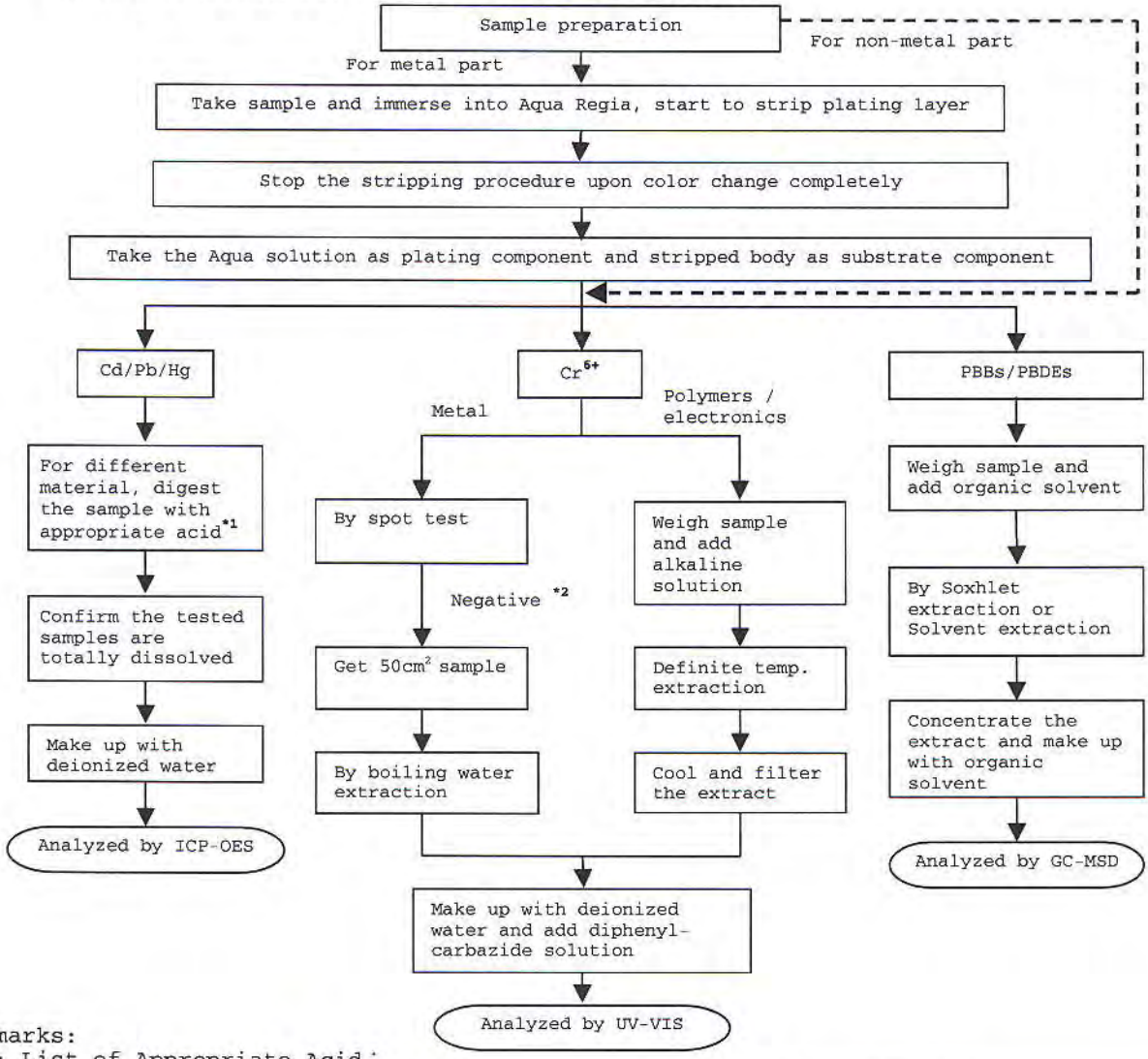


**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00240940

Test 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, $H_2O_2$, $H_3BO_3$ |
| Metals | $HNO_3$, HCl, HF |
| Electronics | $HNO_3$, HCl, $H_2O_2$, $HBF_4$ |

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

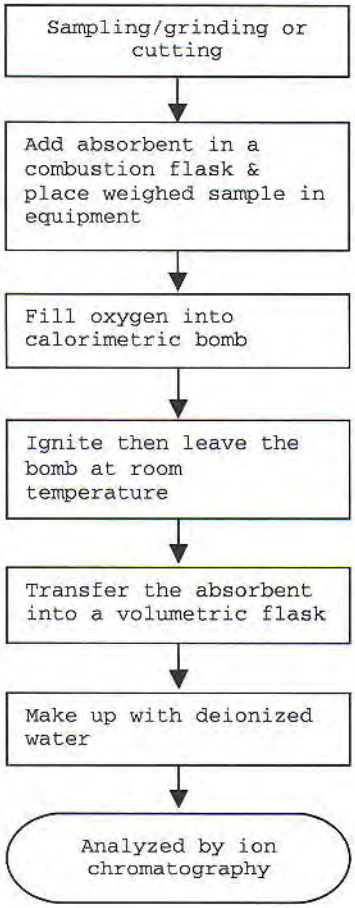


**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content
Reference Standard : EN 14582





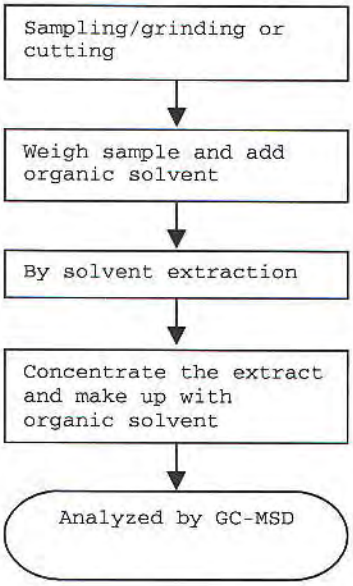

**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00240940

Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004



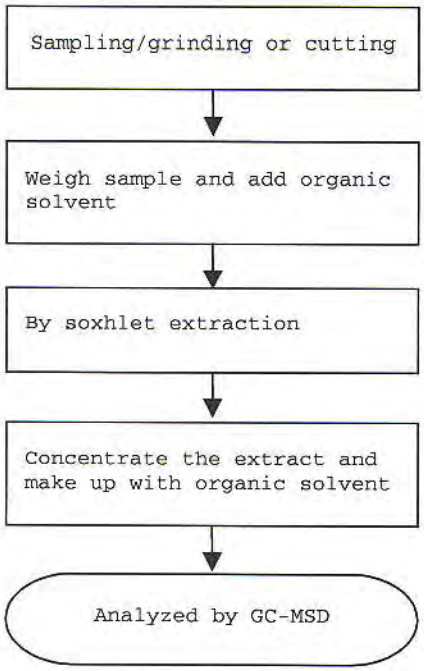



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)
Reference Standard : USEPA 3540C




End of Report

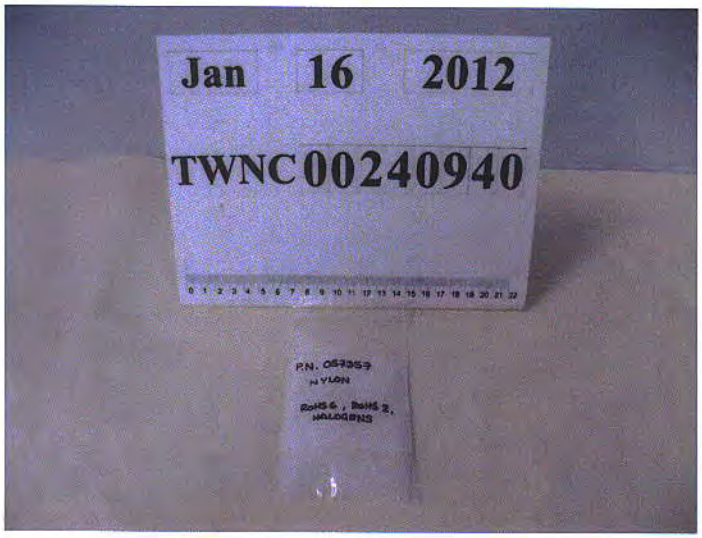


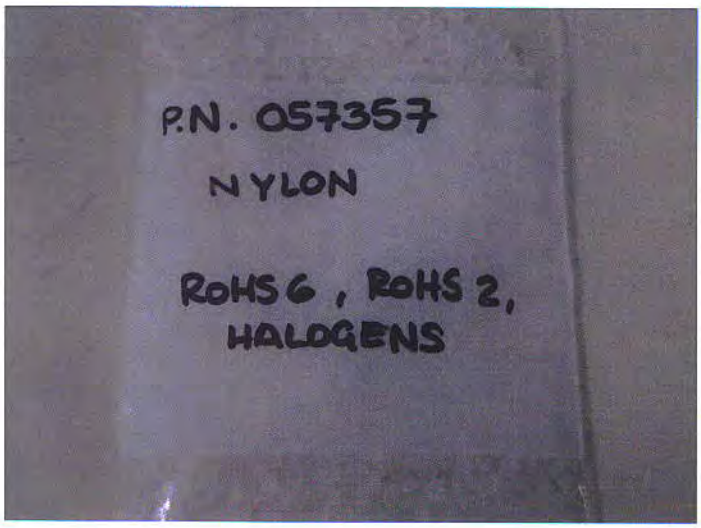
**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00240940

Test Conducted

**Photo**






**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

**Test Report** Number : TWNC00268647

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Jul 30, 2012

Sample Description:
One (1) group of submitted samples said to be :
Part Description : COLORANT ORANGE
Part Number : 057884
Date Sample Received : Jul 25, 2012
Date Test Started : Jul 25, 2012

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited

K. Y. Liang
Director





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Number : TWNC00268647

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Dark Orange Plastic Pellets |
| **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 |
| **Halogen Content** | |
| Fluorine (F) | ND |
| Chlorine (Cl) | 2282 |
| Bromine (Br) | ND |
| Iodine (I) | ND |
| **Phthalates** | |
| Di(2-ethylhexyl) Phthalate (DEHP) | ND |
| Dibutyl Phthalate (DBP) | ND |
| Benzyl Butyl Phthalate (BBP) | ND |



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Number : TWNC00268647

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Dark Orange Plastic Pellets |
| **Others** | |
| Hexabromocyclododecane (HBCDD) | ND |

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

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

Date Sample Received : Jul 25, 2012
Test Period : Jul 25, 2012 To Jul 27, 2012

(Ⅱ) RoHS Limits:

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

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test Conducted

(Ⅲ) Test Method:

| Test Item | Test Method | Reporting Limit |
|---|---|---|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI ($Cr^{6+}$) content | With reference to IEC 62321 edition 1.0:2008 in annex 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-MS and further HPLC-DAD 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-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Halogen Content | With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph. | 50 ppm |
| Phthalates | With reference to EN 14372: 2004, by solvent extraction and determined by GC-MS. | 50 ppm |
| Hexabromocyclododecane (HBCDD) | With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD. | 10 ppm |

Remark: Reporting limit = Quantitation limit of analyte in sample



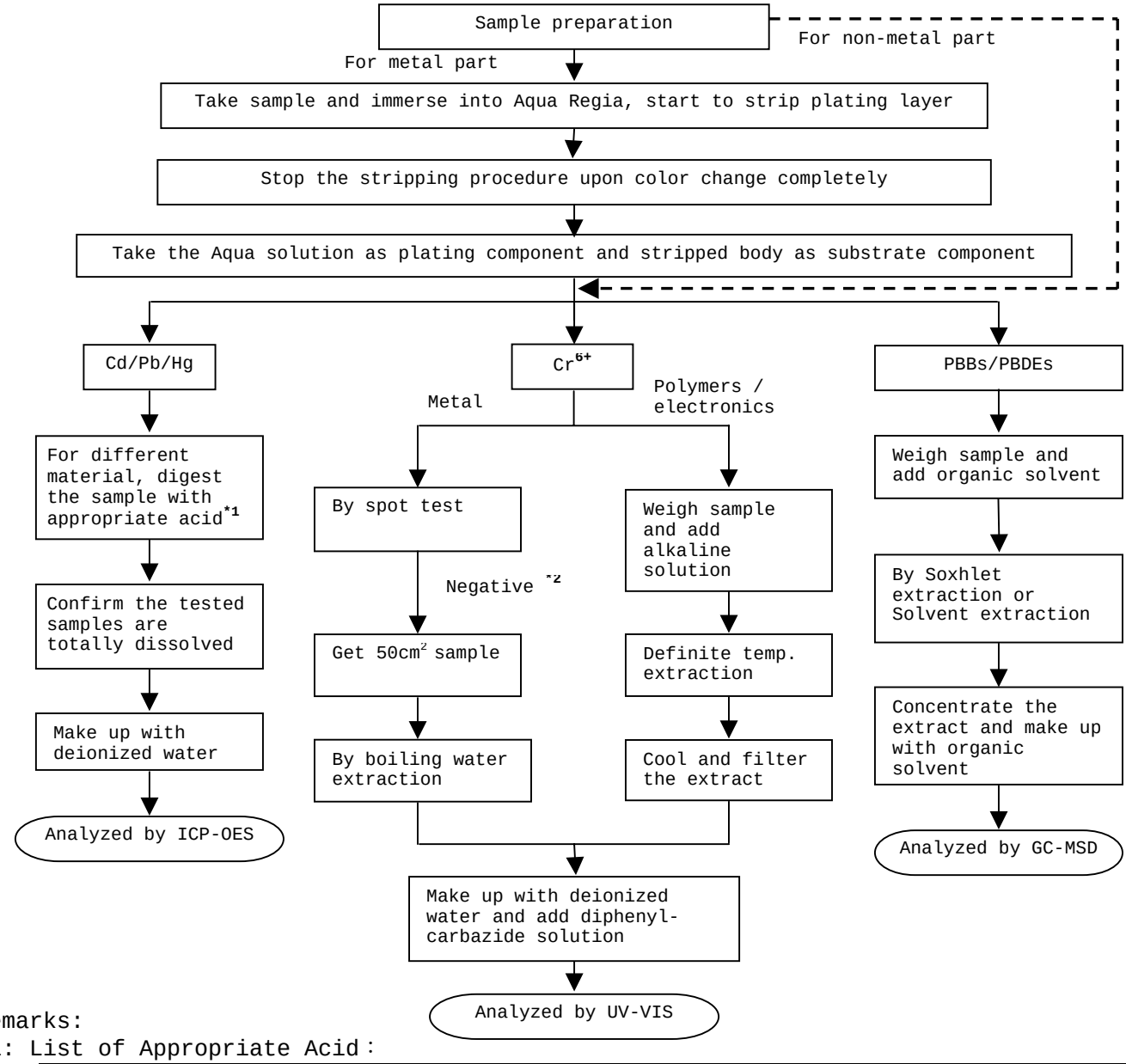
**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test 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, $H_2O_2$, $H_3BO_3$ |
| Metals | $HNO_3$, HCl, HF |
| Electronics | $HNO_3$, HCl, $H_2O_2$, $HBF_4$ |

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



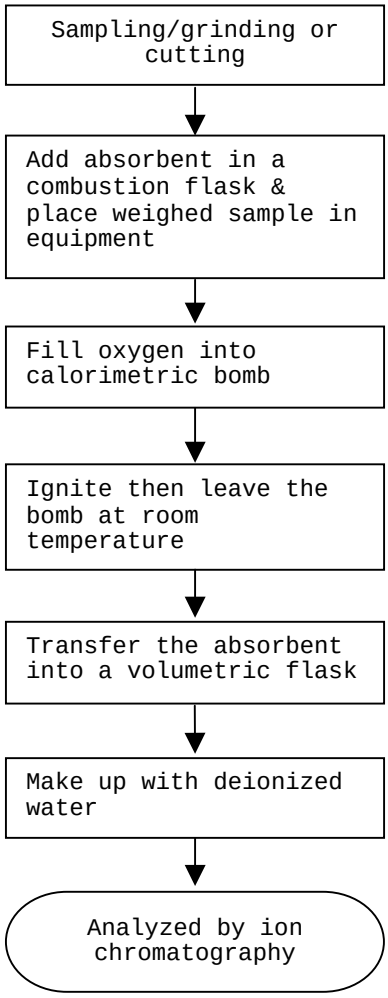
**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content

Reference Standard：EN 14582



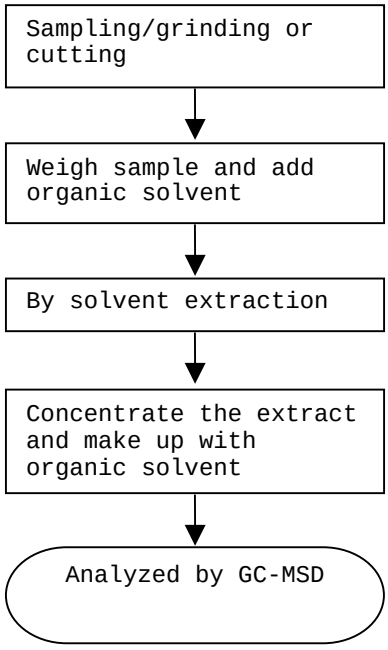



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004





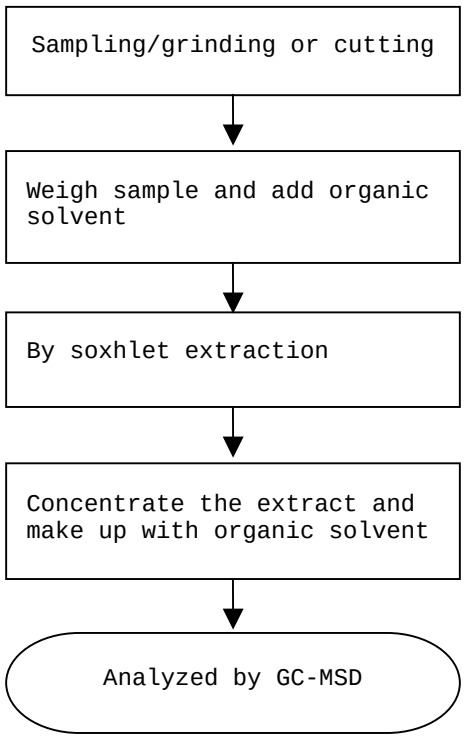

**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)

Reference Standard：USEPA 3540C




End of Report





**Intertek Testing Services Taiwan Ltd.**

8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.

全國公證檢驗股份有限公司

114 台北市內湖區瑞光路 423 號 8 樓

Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Number : TWNC00268647

Test Conducted

**Photo**





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

**Test Report** Number : TWNC00235729

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Dec 09, 2011

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

| | |
|---|---|
| Part Description | : COPPER HARDENED ZINC |
| Part Number | : 955410 |
| Date Sample Received | : Dec 06, 2011 |
| Date Test Started | : Dec 06, 2011 |

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited

K. Y. Liang
Director





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00235729

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Silvery Metal |
| **Heavy Metal** | |
| Cadmium (Cd) content | ND |
| Lead (Pb) content | 23 |
| Mercury (Hg) content | ND |
| Chromium VI ($Cr^{6+}$) content (mg/kg with $50cm^2$) | Negative (< 0.02) |

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg
ND = Not detected
< = Less than
mg/kg with $50cm^2$ = milligram per kilogram with 50 square centimetre
Negative = A negative test result indicated positive observation was not found at the time of Test.

Responsibility of Chemist : Irene Chiou / Kevin Liu

Date Sample Received : Dec 06, 2011
Test Period : Dec 06, 2011 To Dec 09, 2011

(Ⅱ) RoHS Requirement:

| Restricted Substances | Limits |
|---|---|
| Cadmium (Cd) Content | 0.01% (100ppm) |
| Lead (Pb) Content | 0.1% (1000ppm) |
| Mercury (Hg) Content | 0.1% (1000ppm) |
| Chromium VI ($Cr^{6+}$) Content | 0.1% (1000ppm) |

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



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00235729

Test Conducted

(Ⅲ) Test Method:

| Test Item | Test Method | Reporting Limit |
|---|---|---|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI ($Cr^{6+}$) content | With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis spectrophotometer. | 0.02 mg/kg with $50cm^2$ |

Remark: Reporting limit = Quantitation limit of analyte in sample



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

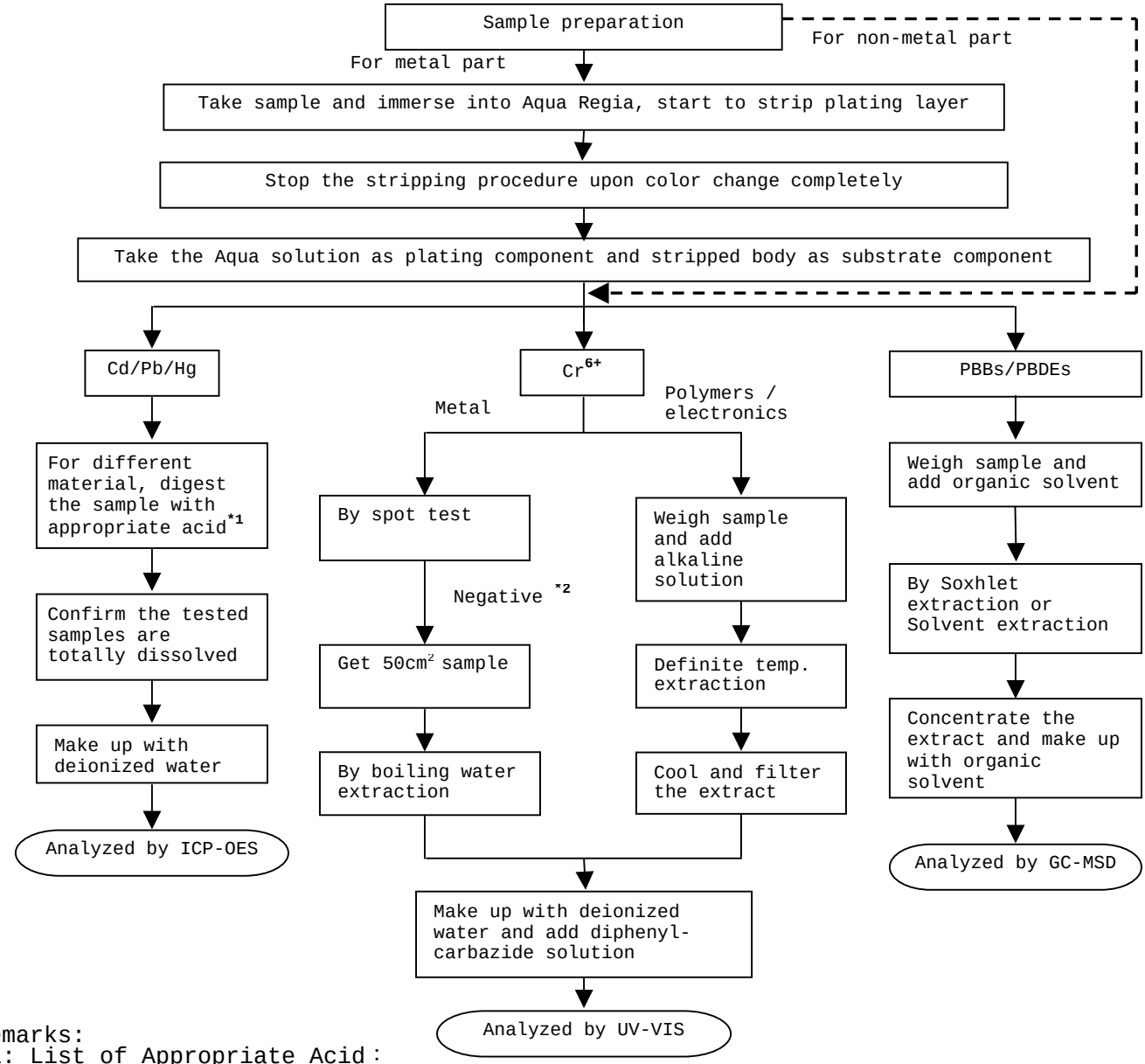
Number : TWNC00235729

Test 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, $H_2O_2$, $H_3BO_3$ |
| Metals | $HNO_3$, HCl, HF |
| Electronics | $HNO_3$, HCl, $H_2O_2$, $HBF_4$ |

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

End of Report



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00235729

Test Conducted

**Photo**





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

**Test Report** Number : TWNC00234714

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Dec 01, 2011

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

| | |
|---|---|
| Part Description | : SOLID CORE SOLDER |
| Part Number | : 692536 |
| Date Sample Received | : Nov 28, 2011 |
| Date Test Started | : Nov 29, 2011 |

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited

K. Y. Liang
Director





**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00234714

Test Conducted

(Ⅰ) Test Result Summary :

| Test Item | Result (ppm) |
|---|---|
| | Silvery Metal |
| **Heavy Metal** | |
| Cadmium (Cd) content | ND |
| Lead (Pb) content | 250 |
| Mercury (Hg) content | ND |
| Chromium VI ($Cr^{6+}$) content (mg/kg with $50cm^2$) | Negative (< 0.02) |

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg
ND = Not detected
< = Less than
mg/kg with $50cm^2$ = milligram per kilogram with 50 square centimetre
Negative = A negative test result indicated positive observation was not found at the time of Test.

Responsibility of Chemist : Irene Chiou / Kevin Liu

Date Sample Received : Nov 28, 2011
Test Period : Nov 29, 2011 To Dec 01, 2011

(Ⅱ) RoHS Requirement:

| Restricted Substances | Limits |
|---|---|
| Cadmium (Cd) Content | 0.01% (100ppm) |
| Lead (Pb) Content | 0.1% (1000ppm) |
| Mercury (Hg) Content | 0.1% (1000ppm) |
| Chromium VI ($Cr^{6+}$) Content | 0.1% (1000ppm) |

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



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted
(Ⅲ) Test Method:

| Test Item | Test Method | Reporting Limit |
|---|---|---|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI ($Cr^{6+}$) content | With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis spectrophotometer. | 0.02 mg/kg with $50cm^2$ |

Remark: Reporting limit = Quantitation limit of analyte in sample



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

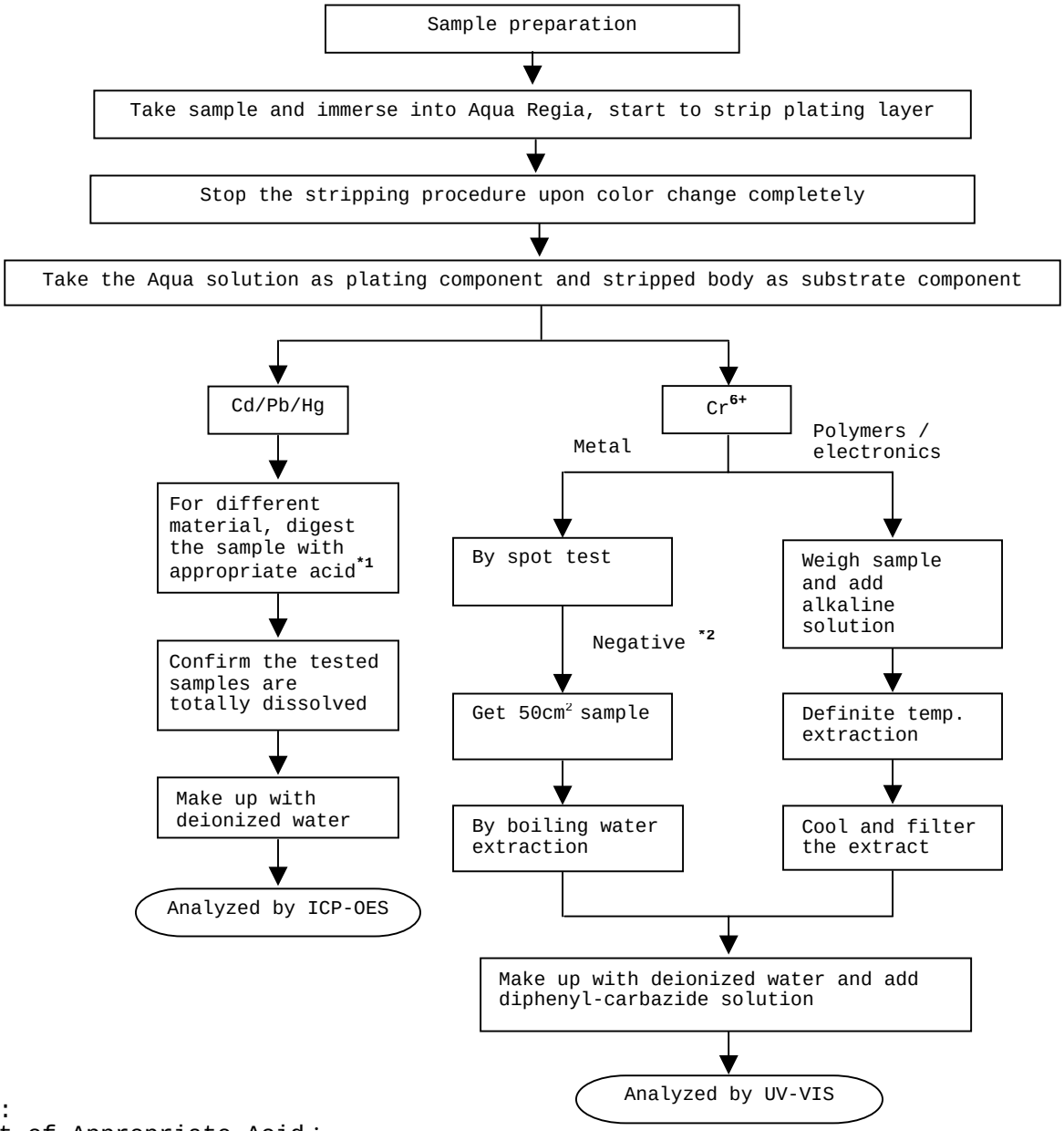
Number : TWNC00234714

Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

Reference Standard：IEC 62321 edition 1.0:2008




Remarks:

*1: List of Appropriate Acid：

| Material | Acid Added for Digestion |
|---|---|
| Polymers | $HNO_3, HCl, HF, H_2O_2, H_3BO_3$ |
| Metals | $HNO_3, HCl, HF$ |
| Electronics | $HNO_3, HCl, H_2O_2, HBF_4$ |

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

End of Report



**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00234714

Test Conducted

**Photo**




**Intertek Testing Services Taiwan Ltd.**
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
114 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401