

Company name:

ICP Test Report Certification Packet

Littelfuse, Inc.

Product Series:	J - Case
Product #:	495xxx Series
Issue Date:	August 17, 2012
2011/65/EU)-restricted supacking/packaging material In addition, it is hereby refor unit parts, the packing/	Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC, abstance nor such use, for materials to be used for unit parts, for als, and for additives and the like in the manufacturing processes. ported to you that the parts and sub-materials, the materials to be used packaging materials, and the additives and the like in the manufacturing sed of the following components.
	Issued by: KRISTEEN BACILA
(1) Parts, sub-materials a This document cove Inc.	<global ehs="" engineer=""> and unit parts rs the 495 RoHS-Compliant series products manufactured by Littelfuse,</global>
< Raw Materials U Please see Tab	
(2) The ICP data on all r	measurable substances ropriate 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	048410	Element - Lubaloy x 425 Alloy	3-20
2	080625	Element – Olin 194 Alloy	3-20
3	080624	Element - Olin 151 Alloy	3-20
4	057898	Black Colorant	3-20
5	057336	Housing	21-26
6	057893	Cover – Clear Colorant	27-35
7	057785	Pink Colorant	36-44
8	057786	Green Colorant	45-53
9	692536	Solder	54-58
10	057892	Natural Colorant	59-64
11	057787	Red Colorant	65-71
12	057784	Base Colorant	72-75
13	057891	Cover – Violet Colorant	76-84
14	425498	Foil-White Hot Stamp	85-93
15	057349	Housing	94-100
16	057881	Yellow Colorant	101-109



Date: 2010-06-18

TEST REPORT

APPLICANT

Littelfuse, S.A. de C.V. Blvd. Fausto Z. mtz. 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila Ing. Mario A. Falcón

SAMPLE DESCRIPTION

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

Sample Description

NΡ

16) Serie 495 P/N: 48410

17) Serie 495 P/N 80625

18) Serie 495 P/N: 80624

19) Serie 495 P/N 057336

Item No.

20) Serie 495 P/N: 057898

21) Serie 495 P/N: 057893

22) Serie 495 P/N: 057785

23) Serie 495 P/N: 057786

Country of Origin

NP

Buyer's Name

NP

Supplier's Name

NP

Date sample received 2010-05-26

Testing period

2010-06-01 to 2010-06-18



Date: 2010-06-18

TEST CONDUCTED

18)

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

16) Serie 495 P/N: 48410 17) Serie 495 P/N 80625

Serie 495 P/N 80625 Serie 495 P/N: 80624

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM		Limit		
TESTING FIEM	(16)	(17)	(18)	
Cadmium (Cd) content	ND	ND	j≨∱4 ND	0,01% (100 ppm)
Lead (Pb) content	14,117	13,061	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	× ND	0,1% (1000 ppm)
Chromium (VI) (Cr ⁶⁺)	ND	ND	. ND	0,1% (1000 ppm)



Date: 2010-06-18

TEST CONDUCTED

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

19) Serie 495 P/N 057336

20) Serie 495 P/N: 057898

21) Serie 495 P/N: 057893

TEST RESULT SUMMARY FOR ROHS DIRECTIVE:

TESTING ITEM		Limit		
TESTING ITEM	19)	(20)	(21)	LINA
Cadmium (Cd) content	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	ND	ND	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr ⁶⁺)	. ND	ND	ND	0,1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs)	ND	ND 1	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	ND:	ND	
Dibromobiphenyl (DiBB)	ND	ND	ND .	
Tribromobiphenyl (TriBB)	ND	ND	ND	
Tetrabromobiphenyl (TetraBB)	ND	ND	ND	`
Pentabromobiphenyl (PentaBB)	ND	ND	ND	
Hexabromobiphenyl (HexaBB)	ND	ND	ND	
Heptabromobiphenyl (HeptaBB)	ND	ND	ND	
Octabromobiphenyl (OctaBB)	ND	ND	ND	
Nonabromobiphenyl (NonaBB)	ND	ND .	ND	
Decabromobiphenyl (DecaBB)	ND	ND	ND	
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	ND	ND	ND	0,1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND	ND	ND	
Dibromodiphenyl (DiBDE)	ND	ND	ND	
Tribromodiphenyl (TriBDE)	ND	ND	ND	an an
Tetrabromodiphenyl (TetraBDE)	ND	ND	ND	
Pentabromodiphenyl (PentaBDE)	ND	ND	ND	
Hexabromodiphenyl (HexaBDE)	ND	ND	ND	
Heptabromodiphenyl (HeptaBDE)	ND	ND -	ND	
Octabromodiphenyl (OctaBDE)	ND	ND	ND	- Pro-
Nonabromodiphenyl (NonaBDE)	ND	ND .	ND	
Decabromodiphenyl (DecaBDE)	ND	ND	ND	

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Date: 2010-06-18

TEST CONDUCTED

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

22) Serie 495 P/N: 05778523) Serie 495 P/N: 057786

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM	Ω RES	Limit	
ESTING ITEM	(22)	(23)	<u> </u>
Cadmium (Cd) content	ND	ND	0,01% (100 ppm)
ead (Pb) content	14,100	ND	0,1% (1000 ppm)
Легсигу (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr ⁶⁺)	ND	ND	0,1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs)	ND	ND.	0,1% (1000 ppm)
nonobromobiphenyl (MonoBB)	ND .	ND .	
Dibromobiphenyl (DiBB)	ND	ND	
ribromobiphenyl (TriBB)	ND	ND ·	
etrabromobiphenyl (TetraBB)	ND	ND	
Pentabromobiphenyl (PentaBB)	ND	ND	
lexabromobiphenyl (HexaBB)	ND	ND	
leptabromobiphenyl (HeptaBB)	ND	ND	
Octabromobiphenyl (OctaBB)	ND .	ND	
lonabromobiphenyl (NonaBB)	ND	ND	
Decabromobiphenyl (DecaBB)	ND	ND	
OLYBROMINATED DIPHENYL THERS (PBDEs)	ND	ND	0,1% (1000 ppm)
lonobromodiphenyl (MonoBDE)	ND	. ND	
Dibromodiphenyl (DiBDE)	ND	ND	
ribromodiphenyl (TriBDE)	ND	ND ·	
etrabromodiphenyl (TetraBDE)	ND	ND	
Pentabromodiphenyl (PentaBDE)	ND	ND	
lexabromodiphenyl (HexaBDE)	ND	ND	
leptabromodiphenyl (HeptaBDE)	ND	ND	
Octabromodiphenyl (OctaBDE)	ND	ND.	
lonabromodiphenyl (NonaBDE)	ND	ND	
ecabromodiphenyl (DecaBDE)	ND	· ND	

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Date: 2010-06-18

ppm = parts per million based on dry weight of sample.

µg/cm² = microgram per square centimeter.

mg/kg WITH 50cm² = 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

In In the deaner

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 ___MX10 1165-16 WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-17</u> WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-18 WERE TESTED TOGETHER.</u>

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-19</u> WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-20</u> WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-21</u> WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-22 W</u>ERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10 1165-23</u> WERE TESTED TOGETHER.

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Intertek Testing Services de México, S.A. de C.V.
Blvd. Manuel Ávila Camacho No. 182 Col. Lomas de Chapultepec
C.P. 11650, México, D.F. Tel.: 50912150 Fax: 55407863
www.intertek.com

07





Date: 2010-06-18

Test method:

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
	1 0.	With reference to USEPA 3060, by EPA 7196	QHU2009-3p99,100	2010-06-05	MTCM	2,0

No. de Muestra	Testing item	Ω <u>Testing method</u>	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
	POLYBROMINAT ED BIPHENYLS (PBBs)	Determined by GC-MSD	2010-004481-PCL	2010-06-18	▲ Contract	50
	POLYBROMINAT ED DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2010-004481-PCL	2010-06-18	▲ Contract	50

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
16	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-8p26	2010-06-03	MARY	10,0
17	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-8p26	2010-06-03	MARY	10,0
18	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-8p26	2010-06-03	MARY	10,0
19	Lead (Pb) content	With reference to USEPA 3052MOD, by EPA 7420	MET2010-8p27	2010-06-03	MARY	10,0
20	Lead (Pb) content	With reference to USEPA 3052MOD, by EPA 7420	MET2010-8p27	2010-06-03	MARY	10,0
21	Lead (Pb) content	With reference to USEPA 3052MOD, by EPA 7420	MET2010-8p27	2010-06-03	MARY	10,0
22	Lead (Pb) content	With reference to USEPA 3052MOD, by EPA 7420	MET2010-8p27	2010-06-03	MARY	10,0
23	Lead (Pb) content	With reference to USEPA 3052MOD, by EPA 7420	MET2010-8p27	2010-06-03	MARY	10,0



Date: 2010-06-18

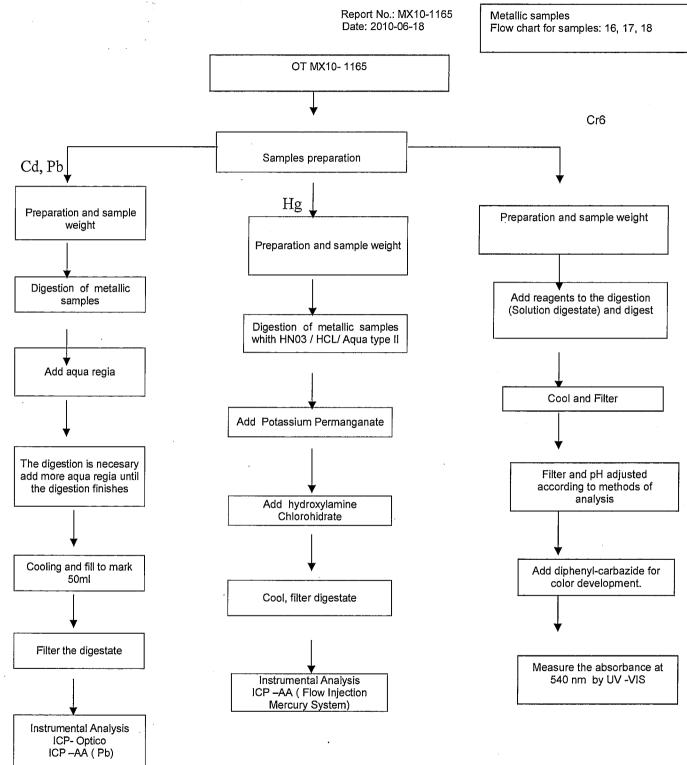
No. de Muestra	Testing item	Ω <u>Testing method</u>	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
16	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 7130	MET2010-8p26	2010-06-03	MARY	2,5
17	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 7130	MET2010-8p26	2010-06-03	MARY	2,5
18	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 7130	MET2010-8p26	2010-06-03	MARY	2,5
19	Cadmium (Cd) content	With reference to USEPA 3052MOD, by EPA 7130	MET2010-8p27	2010-06-03	MARY	2,5
20	Cadmium (Cd) content	With reference to USEPA 3052MOD, by EPA 7130	MET2010-8p27	2010-06-03	MARY	2,5
21	Cadmium (Cd) content	With reference to USEPA 3052MOD, by EPA 7130	MET2010-8p27	2010-06-03	MARY	2,5
22	Cadmium (Cd) content	With reference to USEPA 3052MOD, by EPA 7130	MET2010-8p27	2010-06-03	MARY	2,5
23	Cadmium (Cd) content	With reference to USEPA 3052MOD, by EPA 7130	MET2010-8p27	2010-06-03	MARY	2,5

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
16	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p23	2010-06-02	JAPM	0,083
17	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p23	2010-06-02	JAPM	0,083
18	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p23	2010-06-02	JAPM	0,083
19	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p22	2010-06-02	JAPM	0,083
20	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p22	2010-06-02	JAPM	0,083
21	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p22	2010-06-02	JAPM	0,083
22	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p22	2010-06-02	JAPM	0,083
23	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p22	2010-06-02	JAPM	0,083

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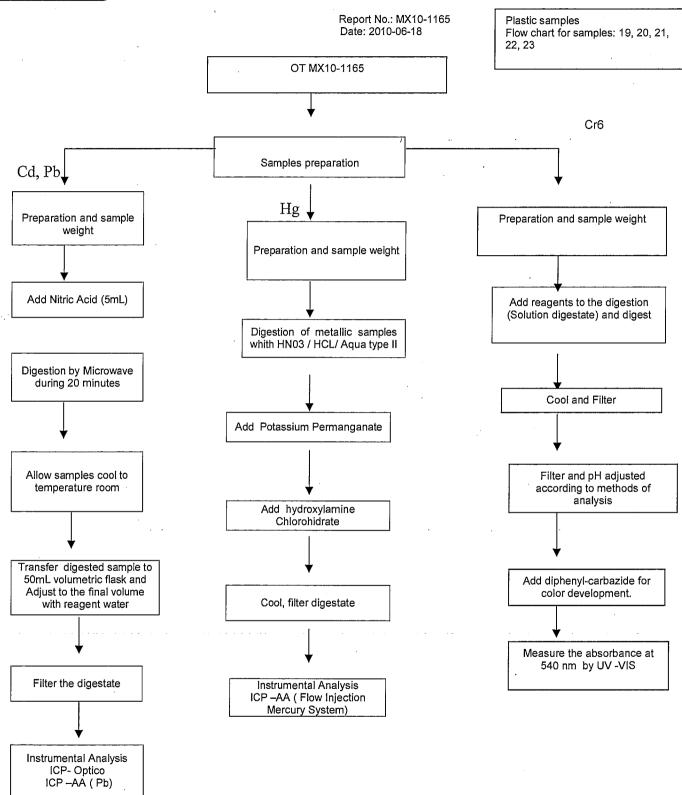
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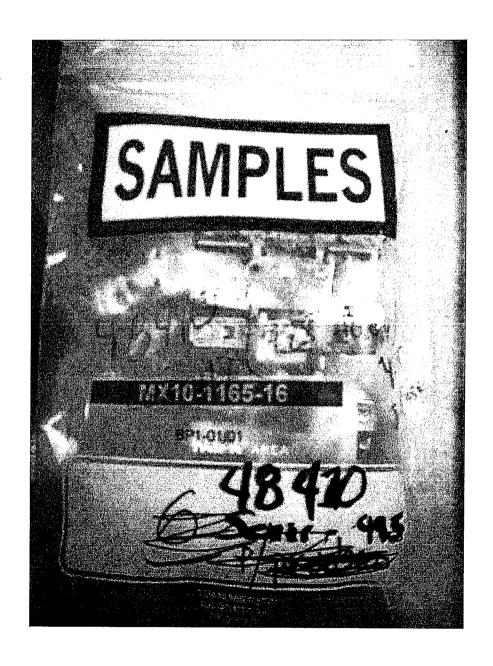




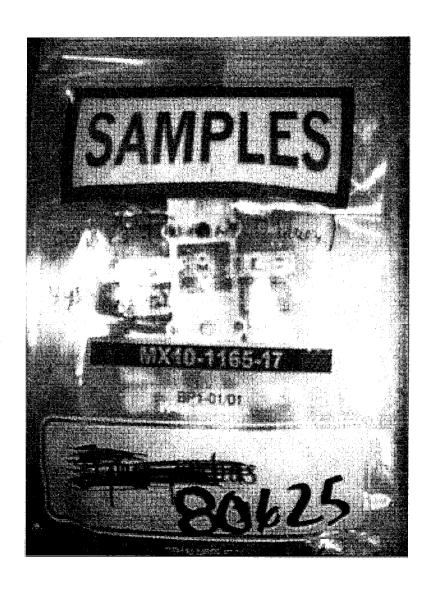
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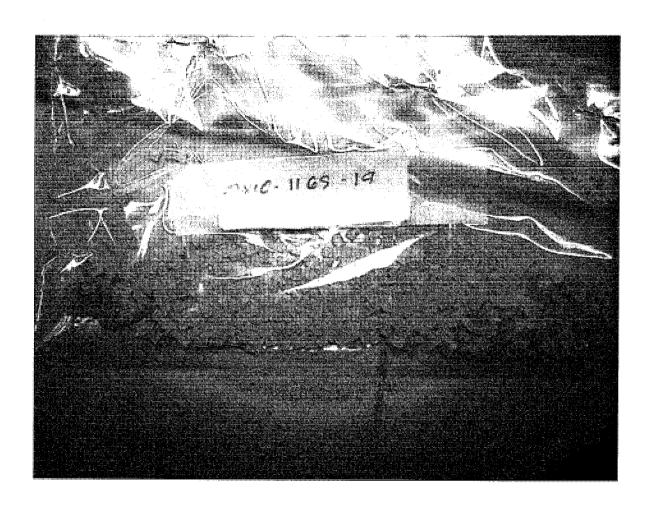
















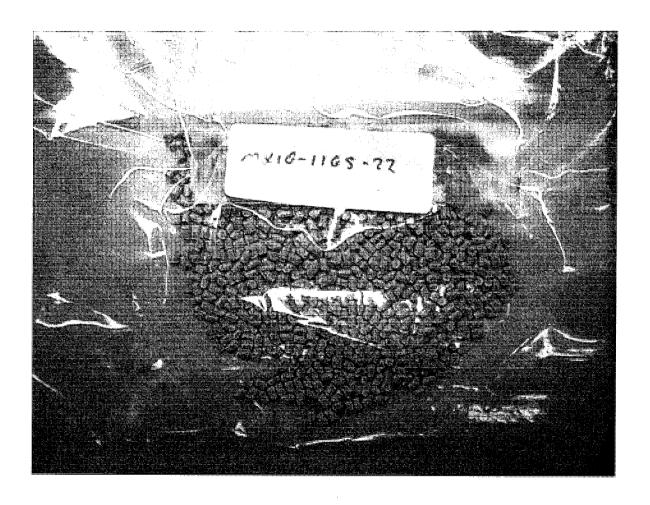




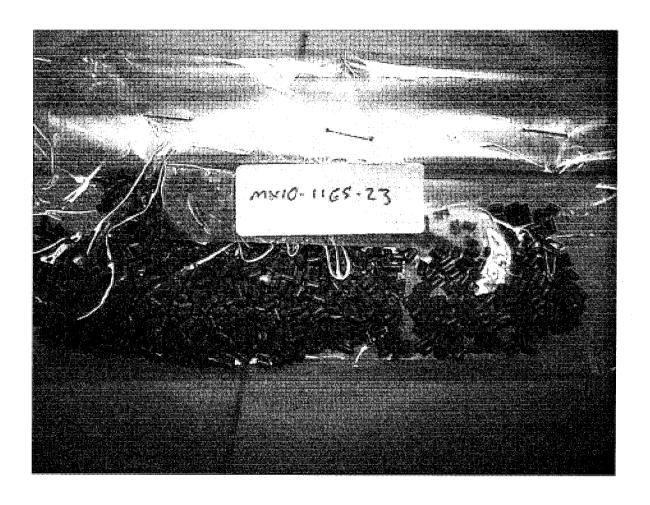














Test Report Number: TWNC00214669

Applicant: Littelfuse S.A. de C.V. Automotive

Business Unit

Blvd. Fausto Z. Martinez #1800 Col. Magisterio Seccion 38 C.P. 260170 Piedras Negras, Coahuila Mexico.

Sample Description:

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

Part Description : HOUSING NYLON

Part Number : 057336

Date Sample Received : Jul 05, 2011
Date Test Started : Jul 05, 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

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Date : Jul 07, 2011

Page 1 Of 6



Test Conducted

(I) Test Result Summary:

) Test Result Summary :	
	Result (ppm)
Test Item	Yellow 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)	ND
Bromine (Br)	ND
Iodine (I)	ND

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

ND = Not detected

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

Date Sample Received : Jul 05, 2011

Test Period : Jul 05, 2011 To Jul 07, 2011



Test Conducted

(II) RoHS Requirement:

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

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

(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

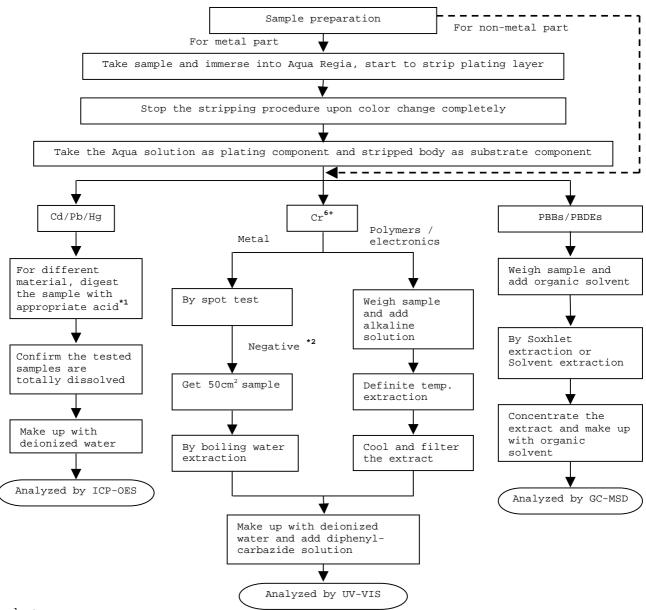
Remark: Reporting limit = Quantitation limit of analyte in sample



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 ₂ O ₂ , H ₃ BO ₃
	HNO ₃ ,HCl,HF
Electronics	HNO _{3,} HCl,H ₂ O _{2,} HBF ₄

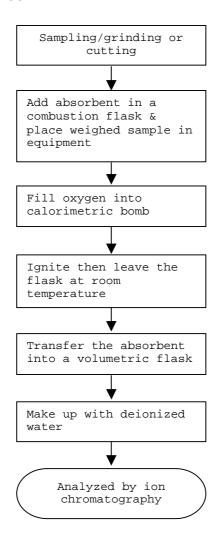
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(N) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



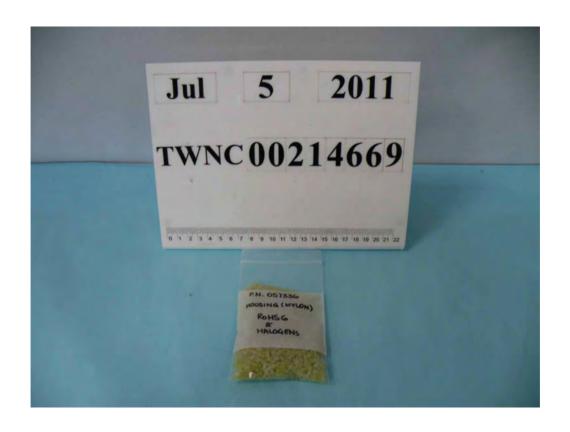
End Of Report



Test Conducted

Number: TWNC00214669

Photo





Test Report Number: TWNC00265152

Applicant: Littelfuse Philippines Inc.

Date : Jul 06, 2012

LIMA Technology Center, Lipa City,

Malvar, Batangas

Sample Description:

One (1) group of submitted samples said to be :
Part Description : COVER CLEAR COLORANT

Part Number : 057893

Date Sample Received : Jul 02, 2012 Date Test Started : Jul 02, 2012

Test Conducted :

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

Authorized By: On Behalf Of Intertek Testing Services Taiwan Limited



K. Y. Liang
Director

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Page 1 of 9



Test Conducted

(I) Test Result Summary :

Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND	rese Resure Summary	Result (ppm)
Heavy Metal Cadmium (Cd) content Lead (Pb) content Mercury (Hg) content Chromium VI (Cr ⁵⁺) content ND Polybrominated Biphenyls (PBBs) Monobrominated Biphenyls (DiBB) Tribrominated Biphenyls (TriBB) ND Tetrabrominated Biphenyls (TriBB) ND Tetrabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (HexaBB) ND Hexabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyls (NonaBB) ND Dibrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (PBDES) Tribrominated Diphenyl Ethers (TriBDE) ND Dibrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (HexaBDE) ND Pentabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (NonaBDE) ND Heptabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND ND Nonabrominated Diphenyl Ethers (NonaBDE) ND	Test Item	Clear Yellow
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Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content Fluorine (F) Chlorine (Cl) Bromine (Br) ND	Octabrominated Diphenyl Ethers (OctaBDE)	ND
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Halogen Content Fluorine (F) ND Chlorine (Cl) ND Bromine (Br) ND		ND
Chlorine (Cl) ND Bromine (Br) ND	Halogen Content	•
Chlorine (Cl) ND Bromine (Br) ND		ND
Bromine (Br) ND	Chlorine (Cl)	ND
Iodine (I) ND	Bromine (Br)	ND
	Iodine (I)	ND



Test Conducted

(I) Test Result Summary :

	Result (ppm)
Test Item	Clear Yellow
	Plastic Pellets
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 : Jul 02, 2012

Test Period : Jul 02, 2012 To Jul 05, 2012

(Π) RoHS Requirement:

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

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



Test Conducted

(Ⅲ) Test Method:

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

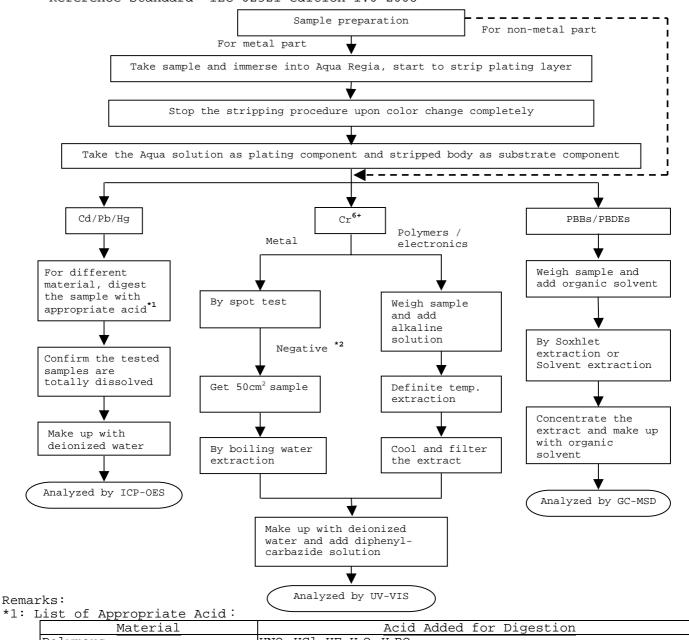
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents Reference Standard: IEC 62321 edition 1.0:2008



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

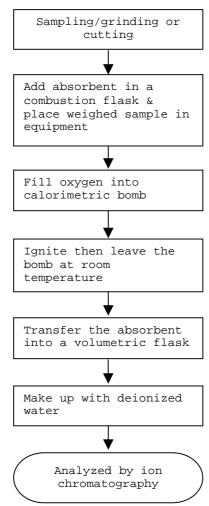
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content Reference Standard: EN 14582

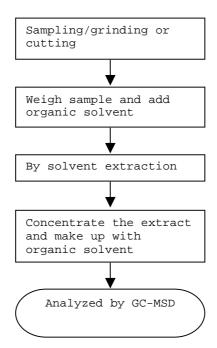




Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents Reference Method: EN 14372: 2004



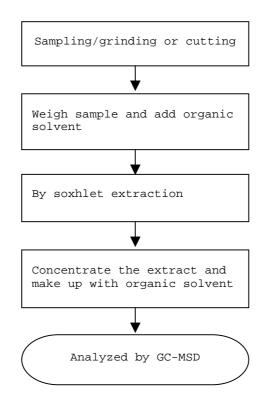


Test Conducted

(IV) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)

Reference Standard: USEPA 3540C



End of Report

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Test Conducted

Photo







Test Report Number: TWNC00237450

Applicant: Littelfuse, S.A. de C.V.

Date : Dec 21, 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 : PINK COLOR CONCENTRATE

Part Number : 057785

Date Sample Received : Dec 19, 2011
Date Test Started : Dec 20, 2011

Test Conducted :

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

Authorized By:
On Behalf Of Intertek Testing Services



K. Y. Liang
Director

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Page 1 of 9



Test Conducted

(I) Test Result Summary :

) Test Result Summary :	Result (ppm)
Test Item	
	Pink 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



Test Conducted

(I) Test Result Summary :

, rest restare summer	
Test Item	Result (ppm)
	Pink 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 : Dec 19, 2011

Test Period : Dec 19, 2011 To Dec 21, 2011

(Π) 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.



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

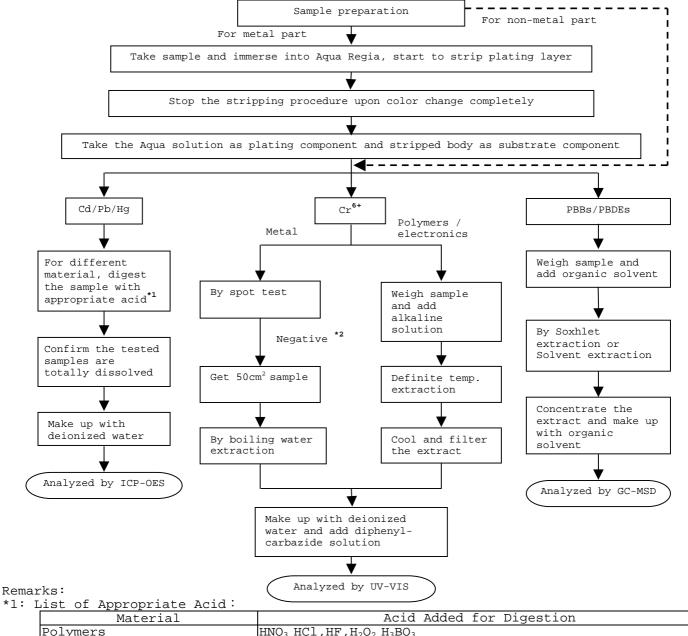
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents Reference Standard: IEC 62321 edition 1.0:2008



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

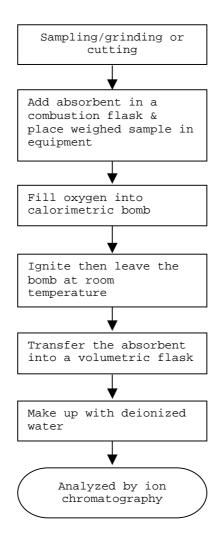
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content Reference Standard: EN 14582

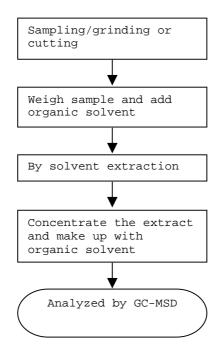




Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents Reference Method: EN 14372: 2004

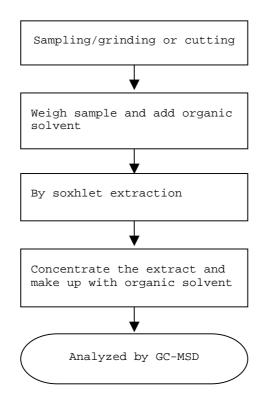




Test Conducted

(IV) Measurement Flowchart:

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

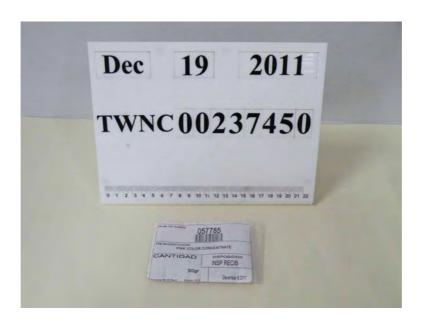


End of Report



Test Conducted

Photo







Test Report Number: TWNC00265153

Applicant: Littelfuse Philippines Inc.

Date : Jul 09, 2012

LIMA Technology Center, Lipa City,

Malvar, Batangas

Sample Description:

One (1) group of submitted samples said to be :
Part Description : HOUSING (GREEN)

Part Number : 057786

Date Sample Received : Jul 02, 2012 Date Test Started : Jul 02, 2012

Test Conducted :

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

Authorized By: On Behalf Of Intertek Testing Services Taiwan Limited



K. Y. Liang
Director

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Page 1 of 9



Test Conducted

(I) Test Result Summary :

_	Result (ppm)
Test Item	Green 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)	9543
Bromine (Br)	ND
Iodine (I)	ND



Test Conducted

(I) Test Result Summary :

·	
	Result (ppm)
Test Item	Green Plastic
	Pellets
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 : Jul 02, 2012

Test Period : Jul 02, 2012 To Jul 06, 2012

(II) RoHS Requirement:

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



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

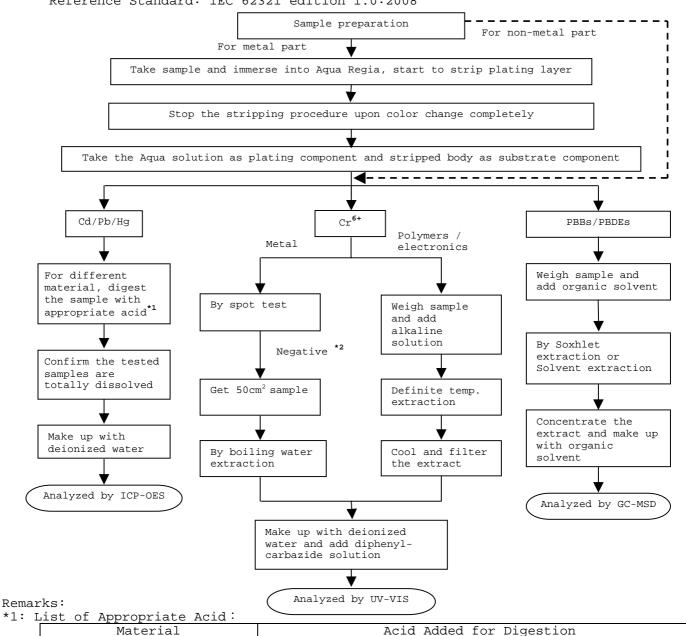
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents Reference Standard: IEC 62321 edition 1.0:2008



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

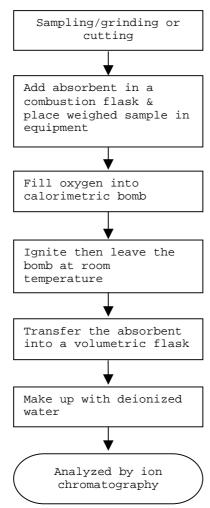
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content Reference Standard: EN 14582

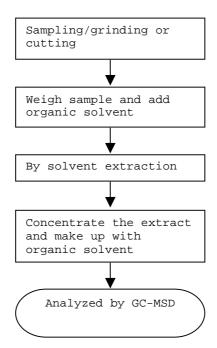




Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents Reference Method: EN 14372: 2004



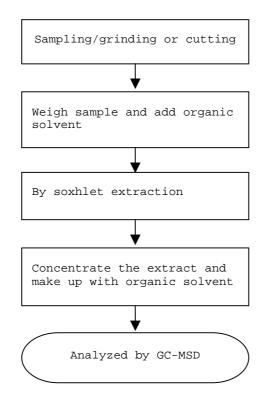


Test Conducted

(IV) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)

Reference Standard: USEPA 3540C



End of Report

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Test Conducted

Photo







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

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

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Date : Dec 01, 2011

Page 1 of 5



Test Conducted

(I) Test Result Summary :

,	
Test Item	Result (ppm) Silvery Metal
	Slivery 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</pre>

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

Responsibility of Chemist : Irene Chiou / Kevin Liu

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.



Test Conducted

(Ⅲ) Test Method:

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

Remark: Reporting limit = Quantitation limit of analyte in sample

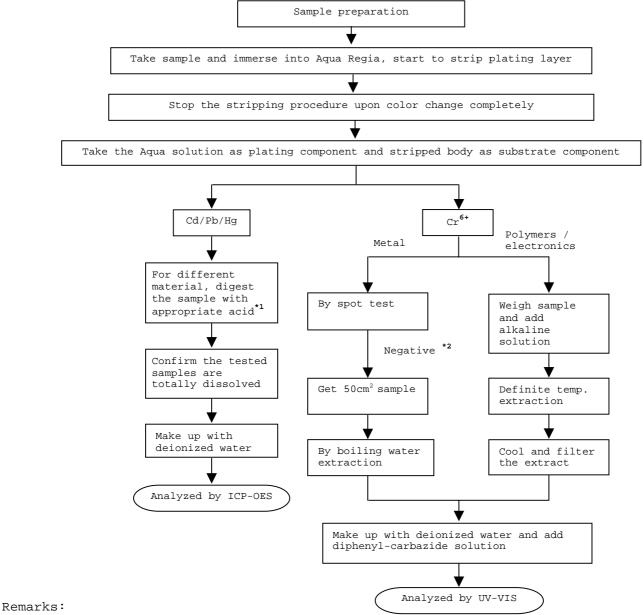


Test Conducted

(IV) Measurement Flowchart:

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

Reference Standard: IEC 62321 edition 1.0:2008



*1: List of Appropriate Acid:

disc 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.

End of Report

Page 4 of 5



Test Conducted

Number : TWNC00234714

Photo





Report No.: MX11-1392 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 057892 Natural Colorant

Country of Origin

NP

Buyer's Name

NΡ

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 057892 Natural Colorant	Pass See Result summary		

.000002





Report No.: MX11-1392 Date: 2011-07-12

TEST CONDUCTED

Samples:

1) PN 057892 Natural Colorant

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM	Ω RESULT (ppm)	Limit
	(1)	<u>=</u>
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	THE RELIGIOUS AND A SHIP	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





Report No.: MX11-1392

Date: 2011-07-12

TEST CONDUCTED

Samples:

1) PN 057892 Natural Colorant

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM	▲ RESULT (ppm)
TESTING ITEM	(1)
Fluor (F) content	ND
Chlorine (CI) content	. ND
Bromine (Br) content	ND
lodine (I) content	ND

ppm = parts per million based on dry weight of sample.

µg/cm² = microgram per square centimeter.

mg/kg WITH 50cm² = 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 MX11-1392-01 WERE TESTED TOGETHER.

600004

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The results that appear in this report belong solely to (s) shows (s) analyzed (s).

1ª. Emisión Junio 2005, 1º Revisión Junio 26, 2009.

ILTA/003/GENS-F8



Report No.: MX11-1392 Date: 2011-07-12

Test method:

Sample Number	Testing item	Ω <u>Testing method</u>	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
1	Chromium VI (Cr ⁶⁺) content	With reference to USEPA 3060, by EPA 7196	QHU2010-61p86	2011-07-03	MELA	20,0

Sample Number	Testing item	Ω <u>Testing method</u>	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000415-PCL	2011-07-11	▲ CONT	50,0
1 ,	POLYBROMINATE D 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 calonmetric 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	MET2011-12p23	2011-06-29	MARY	5,0

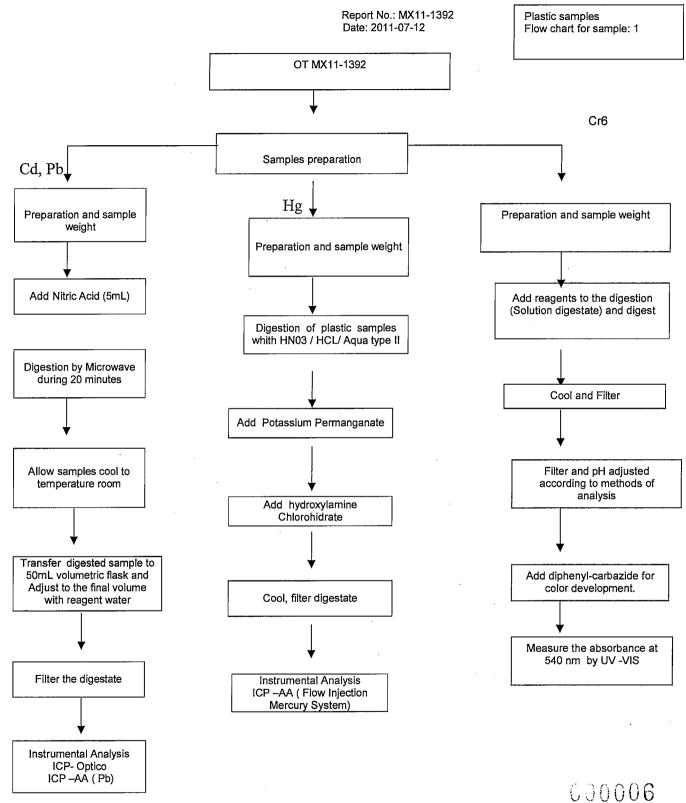
Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2011-12p23	2011-06-29	MARY	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Mercury (Hg) conteпt	With reference to USEPA 7471 by USEPA 7471	MET2011-12p25	2011-07-01	RNC	0,25

600005







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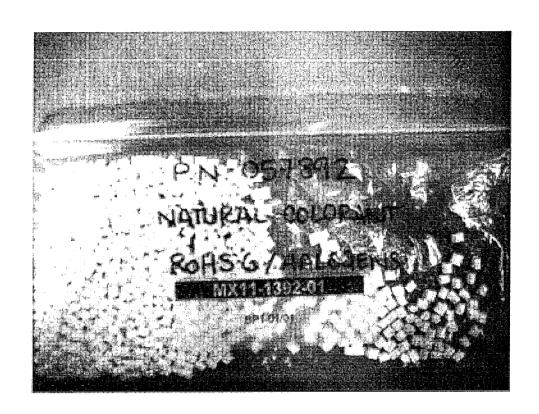
The results that appear in this report belong solely to (s) shows (s) analyzed (s).

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

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Test Report Number: TWNC00218376

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 : RED COLOR CONCENTRATE

Part Number : 057787

Date Sample Received : Jul 29, 2011
Date Test Started : Aug 01, 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

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Date : Aug 11, 2011

Page 1 of 7



Test Conducted

(I) Test Result Summary :

Cadmium (Cd) content	Test Result Summary :	
Heavy Metal Cadmium (Cd) content Lead (Pb) content Mercury (Hg) content Chromium VI (Cr ^{5*}) content Monobrominated Biphenyls (PBBs) Monobrominated Biphenyls (MonoBB) Dibrominated Biphenyls (TriBB) Tribrominated Biphenyls (TriBB) ND Tetrabrominated Biphenyls (TriBB) ND Pentabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (HexaBB) ND Hexabrominated Biphenyls (NonaBB) ND Octabrominated Biphenyls (OctaBB) ND Octabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyls (NonaBB) ND Docabrominated Biphenyls (NonaBB) ND Docabrominated Biphenyl (DecaBB) Monobrominated Biphenyl Ethers (MonoBDE) Monobrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (HexaBDE) ND ND Nonabrominated Diphenyl Ethers (HexaBDE) ND ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Docabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE)	Togt Itom	Result (ppm)
Cadmium (Cd) content Lead (Pb) content Mercury (Hg) content Chromium VI (Cr ⁶⁺) content Polybrominated Biphenyls (PBBs) Monobrominated Biphenyls (MonoBB) Dibrominated Biphenyls (DiBB) Tribrominated Biphenyls (TriBB) Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) Hexabrominated Biphenyls (HexaBB) ND Hexpadian (HexaBB) ND Octabrominated Biphenyls (HexaBB) ND Nonabrominated Biphenyls (NonaBB) ND Nonabrominated Biphenyls (NonaBB) ND Polybrominated Biphenyls (NonaBB) ND Decabrominated Biphenyl (DecaBB) Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (TetraBDE) ND Tetrabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE)	<u>rest rtem</u>	Red Plastic Pellets
Lead (Pb) content Mercury (Hg) content Chromium VI (Cr ⁶⁺) content Polybrominated Biphenyls (PBBs) Monobrominated Biphenyls (MonoBB) Dibrominated Biphenyls (DiBB) Tribrominated Biphenyls (TriBB) Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) Hexabrominated Biphenyls (HexaBB) ND Hetpabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (HexaBB) ND Nonabrominated Biphenyls (NonaBB) ND Polybrominated Biphenyls (NonaBB) Decabrominated Biphenyls (NonaBB) ND Totrabrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (TetraBDE) ND Tetrabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HeyaBDE) ND Octabrominated Diphenyl Ethers (HeyaBDE) ND Hexabrominated Diphenyl Ethers (HeyaBDE) ND Octabrominated Diphenyl Ethers (HeyaBDE) ND ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE)	Heavy Metal	
Mercury (Hg) content Chromium VI (Cr ⁶⁺) content Polybrominated Biphenyls (PBBs) Monobrominated Biphenyls (MonoBB) Dibrominated Biphenyls (DiBB) Tribrominated Biphenyls (TriBB) Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (HexaBB) Heptabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (HeptaBB) ND Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) Polybrominated Diphenyl Ethers (PBDEs) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) ND Nonabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Halogen Content	Cadmium (Cd) content	ND
Chromium VI (Cr6+) content ND Polybrominated Biphenyls (PBBs) Monobrominated Biphenyls (MonoBB) ND Dibrominated Biphenyls (DiBB) ND Tribrominated Biphenyls (TriBB) ND Tetrabrominated Biphenyls (TetraBB) ND Pentabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (HexaBB) ND Hexabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyls (NonaBB) ND Polybrominated Biphenyl (DecaBB) ND Docabrominated Diphenyl Ethers (PBDEs) Monobrominated Diphenyl Ethers (MonoBDE) ND Tribrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) ND Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND	Lead (Pb) 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 (HexaBB) ND Octabrominated Biphenyls (HeytaBB) ND Nonabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyls (NonaBB) ND Decabrominated Biphenyl (DecaBB) ND Tolybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) ND Tribrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) ND Pentabrominated Diphenyl Ethers (PentaBDE) ND Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND		ND
Monobrominated Biphenyls (MonoBB) Dibrominated Biphenyls (DiBB) ND Tribrominated Biphenyls (TriBB) ND Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (HexaBB) ND Heptabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) ND Polybrominated Biphenyl (DecaBB) ND Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) ND Octabrominated Diphenyl Ethers (HeptaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Halogen Content	Chromium VI (Cr ⁶⁺) content	ND
Dibrominated Biphenyls (DiBB) Tribrominated Biphenyls (TriBB) Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) Hexabrominated Biphenyls (PentaBB) Heptabrominated Biphenyls (HexaBB) ND Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) ND Polybrominated Biphenyl (DecaBB) Monobrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TetraBDE) ND Tetrabrominated Diphenyl Ethers (PentaBDE) ND Pentabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND ND Decabrominated Diphenyl Ethers (NonaBDE) ND Halogen Content	Polybrominated Biphenyls (PBBs)	
Tribrominated Biphenyls (TriBB) Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) Hexabrominated Biphenyls (HexaBB) Heptabrominated Biphenyls (HeptaBB) Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) Polybrominated Biphenyl (DecaBB) Monobrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (HeptaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ether (DecaBDE)	Monobrominated Biphenyls (MonoBB)	ND
Tetrabrominated Biphenyls (TetraBB) Pentabrominated Biphenyls (PentaBB) ND Hexabrominated Biphenyls (HexaBB) ND Heptabrominated Biphenyls (HeptaBB) Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) ND Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (TriBDE) Tribrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) ND Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) ND Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ether (DecaBDE)	Dibrominated Biphenyls (DiBB)	ND
Pentabrominated Biphenyls (PentaBB) Hexabrominated Biphenyls (HexaBB) ND Heptabrominated Biphenyls (HeptaBB) Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) ND Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) ND Tetrabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) ND Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Halogen Content	Tribrominated Biphenyls (TriBB)	ND
Hexabrominated Biphenyls (HexaBB) Heptabrominated Biphenyls (HeptaBB) Octabrominated Biphenyls (OctaBB) ND Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) Polybrominated Diphenyl Ethers (PBDEs) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (HeptaBDE) ND Nonabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Halogen Content	Tetrabrominated Biphenyls (TetraBB)	ND
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Octabrominated Biphenyls (OctaBB) Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) ND Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) ND Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (PentaBDE) Heptabrominated Diphenyl Ethers (HexaBDE) Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Hexabrominated Biphenyls (HexaBB)	ND
Nonabrominated Biphenyls (NonaBB) Decabrominated Biphenyl (DecaBB) ND Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) ND Hexabrominated Diphenyl Ethers (PentaBDE) Heptabrominated Diphenyl Ethers (HexaBDE) ND Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Heptabrominated Biphenyls (HeptaBB)	ND
Decabrominated Biphenyl (DecaBB) Polybrominated Diphenyl Ethers (PBDES) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (HeptaBDE) ND Nonabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Octabrominated Biphenyls (OctaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs) Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (HeptaBDE) ND Octabrominated Diphenyl Ethers (OctaBDE) Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Nonabrominated Biphenyls (NonaBB)	ND
Monobrominated Diphenyl Ethers (MonoBDE) Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) ND Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Decabrominated Biphenyl (DecaBB)	ND
Dibrominated Diphenyl Ethers (DiBDE) Tribrominated Diphenyl Ethers (TriBDE) ND Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Polybrominated Diphenyl Ethers (PBDEs)	
Tribrominated Diphenyl Ethers (TriBDE) Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) Nonabrominated Diphenyl Ethers (NonaBDE) Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) Halogen Content	Monobrominated Diphenyl Ethers (MonoBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE) Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) ND Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Dibrominated Diphenyl Ethers (DiBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE) Hexabrominated Diphenyl Ethers (HexaBDE) ND Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) NO Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Tribrominated Diphenyl Ethers (TriBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE) Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE) Octabrominated Diphenyl Ethers (OctaBDE) Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE) Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE) Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE) ND Halogen Content	Octabrominated Diphenyl Ethers (OctaBDE)	ND
Halogen Content	Nonabrominated Diphenyl Ethers (NonaBDE)	ND
	Decabrominated Diphenyl Ether (DecaBDE)	ND
Fluorine (F) ND	` '	ND
Chlorine (Cl) ND	Chlorine (Cl)	ND
Bromine (Br) ND	Bromine (Br)	ND
Iodine (I) ND	Iodine (I)	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 29, 2011

Test Period : Aug 01, 2011 To Aug 05, 2011



Test Conducted

(${\rm II}$) RoHS Requirement:

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

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

(Ⅲ) Test Method:

Test Item Test Method		Reporting Limit
Cadmium (Cd)	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



Test Conducted

(Ⅲ) Test Method:

Test Item	Test Method	Reporting Limit
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

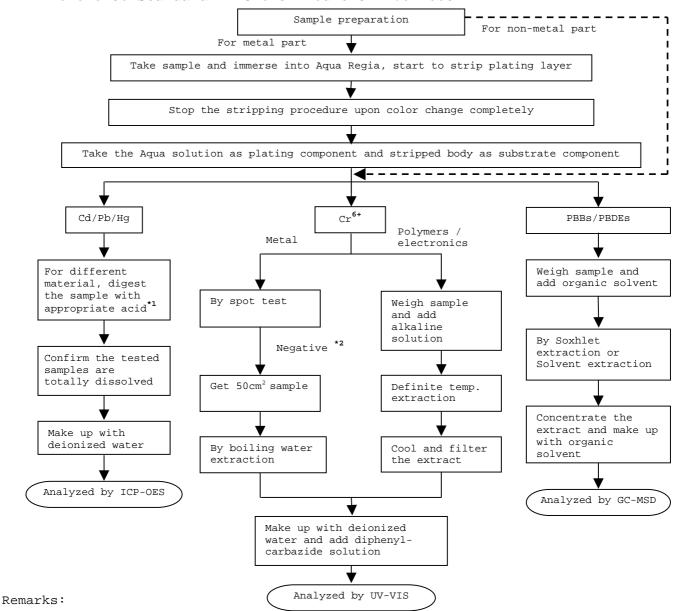
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

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



*1: List Of Appropriate 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

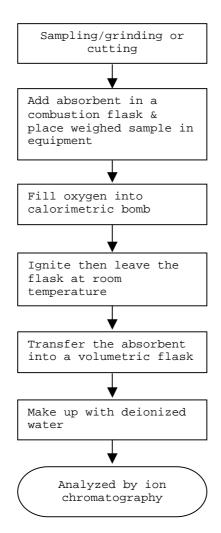
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



End of Report



Test Conducted

Photo







Report No.: MX11-1036-01 Date: 2011-06-15

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 Series 495/895/995

Item No. 1) N/P 057784 Colorant Blue

Country of Origin NP Buyer's Name NP Supplier's Name NP

Date sample received 2011-05-19

Testing period 2011-05-23 to 2011-06-09

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	N/P 057784 Colorant Blue	Pass See Result summary		

TEST CONDUCTED

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The results that appear in this report belong solely to (s) shows (s) analyzed (s).

1ª. Emisión Junio 2005, 1º Revisión Junio 26, 2009.

ILTA/003/GENS-F8



Report No.: MX11-1036-01 Date: 2011-06-15

Samples:

1) N/P 057784 Colorant Blue

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM	Ω RESULT (ppm)	Limit
1201110112111	(1)	<u> </u>
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	



Report No.: MX11-1036-01 Date: 2011-06-15

TECTING ITEM	▲ RESULT (ppm)
TESTING ITEM	(1)
Fluor (F) content	ND
Chlorine (CI) content	ND
Bromine (Br) content	ND
lodine (I) content	ND

|ppm = parts per million based on dry weight of sample.

μg/cm² = microgram per square centimeter.

mg/kg WITH 50cm² = 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 MX11-1036-01 WERE TESTED TOGETHER.

Test method:

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The results that appear in this report belong solely to (s) shows (s) analyzed (s).

1ª. Emisión Junio 2005, 1º Revisión Junio 26, 2009.

ILTA/003/GENS-F8



Report No.: MX11-1036-01 Date: 2011-06-15

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed <u>By:</u>	Reporting limit ppm
1		With reference to USEPA 3060, by EPA 7196	QHU2010-61p76,78	2011-05-26	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000307-PCL	2011-06-09	▲ CONT	50,0
1	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2011-000307-PCL	2011-06-09	▲ CONT	50,0

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	MET2010-40p144	2011-05-26	MARY	5,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed <u>By:</u>	Reporting limit ppm
1	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-40p144	2011-05-26	MARY	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
1	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p139	2010-05-23	RNC	0,25

Sample Number	Testing item	▲ <u>Testing method</u>	Quality control Batch:	Analysis <u>Date:</u>	Analyzed By:	Reporting limit ppm
1	Fluor	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
1	Chlorine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
1	Bromine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
1	lodine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30



Test Report Number: TWNC00264350

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 : COLORANT VIOLET

Part Number : 057891

Date Sample Received : Jun 26, 2012 Date Test Started : Jun 26, 2012

Test Conducted :

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

Authorized By: On Behalf Of Intertek Testing Services Taiwan Limited



K. Y. Liang
Director

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Date : Jul 04, 2012

Page 1 of 9



Test Conducted

(I) Test Result Summary :

rest Result Summary .	
	Result (ppm)
Test Item	<u>Violet Plastic</u>
	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)	ND
Bromine (Br)	ND
Iodine (I)	ND



Test Conducted

(I) Test Result Summary :

	Result (ppm)
Test Item	Violet Plastic
	<u>Pellets</u>
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 : Jun 26, 2012

Test Period : Jun 26, 2012 to Jul 03, 2012

(Π) RoHS Requirement:

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

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



Test Conducted

(Ⅲ) Test Method:

<u> Test Method:</u>		
Test Item	<u>Test Method</u>	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

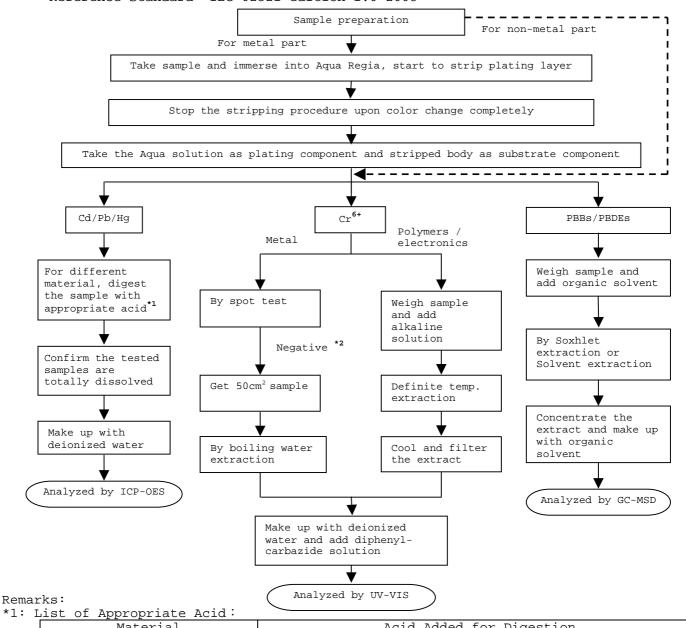
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents Reference Standard: IEC 62321 edition 1.0:2008



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

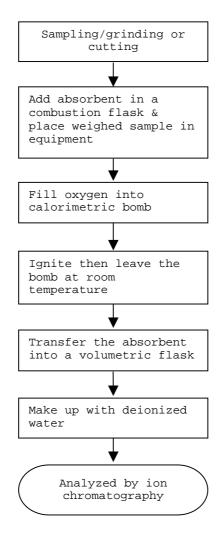
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(${ m IV}$) Measurement Flowchart:

Test for Halogen Content Reference Standard: EN 14582

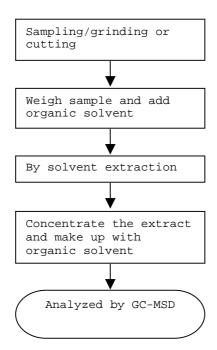




Test Conducted

(${ m IV}$) Measurement Flowchart:

Test For Phthalates Contents Reference Method: EN 14372: 2004

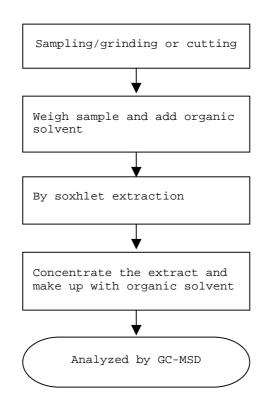




Test Conducted

(IV) Measurement Flowchart:

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



End of Report

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Test Conducted

Number: TWNC00264350

Photo









Test Report Number: TWNC00240941

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 : WHITE FOIL Part Number : 425498

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





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Date : Jan 19, 2012

Page 1 of 9



Test Conducted

(I) Test Result Summary :

Most Itom	Result (ppm)
Test Item	White Plastic Film
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr6+) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	5837
Bromine (Br)	ND
Iodine (I)	ND



Test Conducted

(I) Test Result Summary:

Test Item	Result (ppm)	
Test Item	White Plastic Film	
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 (Cr6+) 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.



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.			
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.			
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave			
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			
With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent Diphenyl Ethers 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		

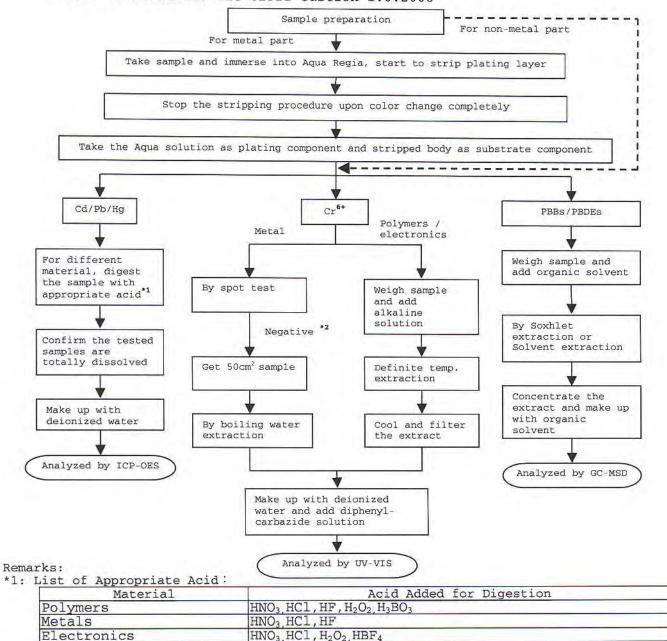
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents Reference Standard: IEC 62321 edition 1.0:2008



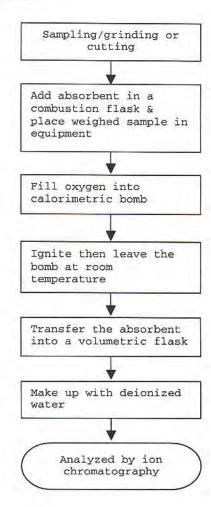
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content Reference Standard: EN 14582

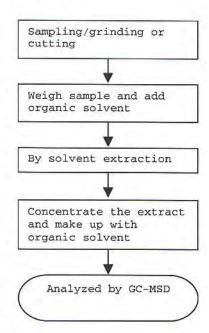




Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents Reference Method: EN 14372: 2004

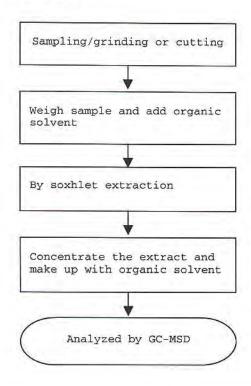




Test Conducted

(IV) Measurement Flowchart:

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



End of Report



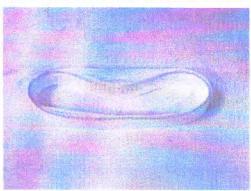
Test Conducted

Number: TWNC00240941

Photo









No.: CE/2008/78361 Date: 2008/08/04 Page: 1 of 7

LITTELFUSE INC.

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

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

Sample Description

HOUSING (ZYTEL)

Style/Item No.

057349

t

Sample Receiving Date

2008/07/30

Testing Period

2008/07/30 TO 2008/08/04

Test Result(s)

Please refer to next page(s).

Chenyu Kung / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.

Chemical Laboratory - Taipei

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No.: CE/2008/78361 Date: 2008/08/04 Page: 2 of 7

LITTELFUSE INC.

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

Test Result(s)

PART NAME NO.1

CREAM PLASTIC PELLETS

Test Item (s):	Unit	Method	MDL	Result
rest item (s).	Offic	Metriou	MIDL	No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Lead by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Hexavalent Chromium for nonmetallic samples by UV/Vis Spectrometry.	2	n.d. *
Halogen		With reference to BS EN 14582:2007. Analysis was performed by IC method for F, CI , Br, I content.		
Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Fluorine content.	50	n.d.
Halogen-Chlorine (CI) (CAS No.: 022537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Chlorine content.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 010097-32-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Bromine content.	50	n.d.
Halogen-lodine (I) (CAS No.: 014362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for lodine content.	50	936

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No.: CE/2008/78361 Page: 3 of 7 Date: 2008/08/04

LITTELFUSE INC.

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

Took Hom (a):	Unit	Method	MDL	Result
Test Item (s):	Unit	Method	MDL	No.1
Sum of PBBs			·	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl		With reference to IEC 62321/2nd /kg CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	5	n.đ.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl	malka		5	n.d.
Sum of PBDEs	mg/kg		-	n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether			5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether			5	n.d.
Decabromodiphenyl ether			5	n.d.

Note: 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. " - " = Not Regulated

5. "---" = Not Conducted

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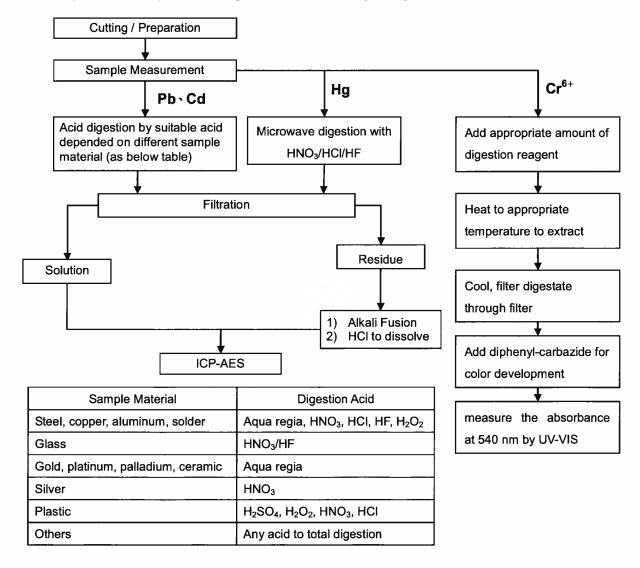


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LITTELFUSE INC. 1000 IC 0188 0000 08189 I VIOLO 100 100 100 I

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



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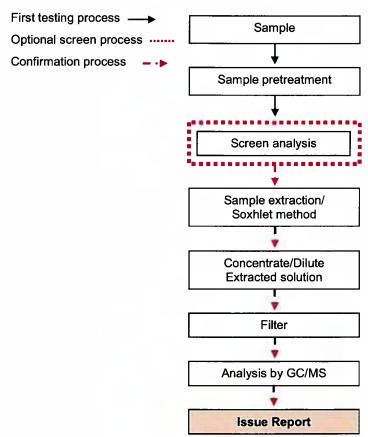
No.: CE/2008/78361 Page: 5 of 7 Date: 2008/08/04

LITTELFUSE INC.

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

PBB/PBDE analytical FLOW CHART

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



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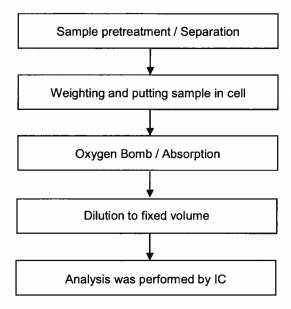
No.: CE/2008/78361 Date: 2008/08/04 Page: 6 of 7

LITTELFUSE INC. TOTAL TO THE STATE OF THE STATE

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

Analytical flow chart of halogen content

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



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LITTELFUSE INC.

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



** End of Report **

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Test Report Number: TWNC00265159

Applicant: Littelfuse, Inc. Date : Jul 06, 2012

800 E. NORTHWEST HWY DESPLAINES IL 60016

Sample Description:

One (1) group of submitted samples said to be :
Part Description : YELLOW COLORANT

Part Number : 057881

Date Sample Received : Jul 02, 2012
Date Test Started : Jul 02, 2012

Test Conducted :

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

Authorized By: On Behalf Of Intertek Testing Services Taiwan Limited



K. Y. Liang
Director

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Page 1 of 9



Test Conducted

(I) Test Result Summary :

	Result (ppm)
Test Item	Yellow 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)	ND
Bromine (Br)	ND
Iodine (I)	ND



Test Conducted

(I) Test Result Summary :

·	
	Result (ppm)
Test Item	Yellow Plastic
	Pellets
Phthalates	<u> </u>
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 : Jul 02, 2012

Test Period : Jul 02, 2012 To Jul 05, 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 Annex II of 2011/65/EU for homogeneous material.



Test Conducted

(Ⅲ) Test Method:

Test Item	Test Method	Reporting Limit
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex 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.	
Hexabromocyclododecane (HBCDD)	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD.	10 ppm

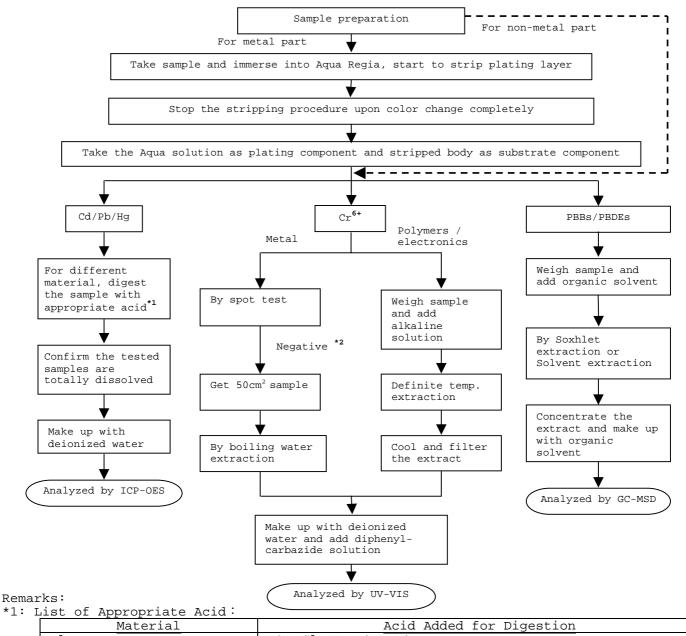
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents Reference Standard: IEC 62321 edition 1.0:2008



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

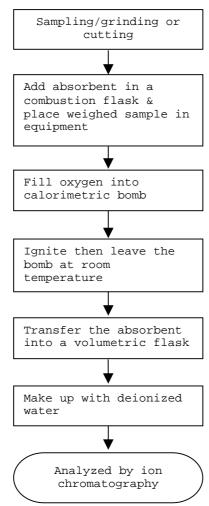
*2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content Reference Standard: EN 14582

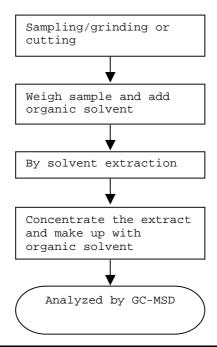




Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents Reference Method: EN 14372: 2004



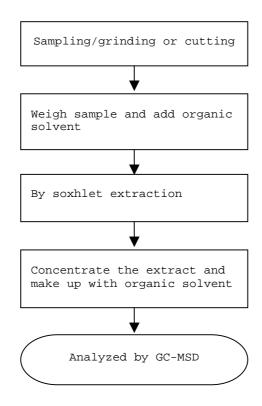


Test Conducted

(IV) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)

Reference Standard: USEPA 3540C



End of Report

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Test Conducted

Photo



