



## ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: J - Case

Product #: 495xxx Series

Issue Date: July 06, 2010

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes.

In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by:

*Kristine L. de Guzman*  
Kristine L. de Guzman

<Global EHS Coordinator>

(1) Parts, sub-materials and unit parts

This document covers the 495 RoHS-Compliant series products manufactured by Littelfuse, Inc.

< Raw Materials Used

Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks :

**Table 1: List of Raw Materials covered by this report**

<b>Total Parts</b>	<b>Raw Material Part Number</b>	<b>Raw Material Description</b>	<b>Page(s)</b>
1	048410	Element - Lubaloy x 425 Alloy	3-21
2	080625	Element – Olin 194 Alloy	3-21
3	080624	Element - Olin 151 Alloy	3-21
4	057336	Housing	3-21
5	057898	Black Colorant	3-21
6	057893	Cover – Clear Colorant	3-21
7	057785	Pink Colorant	3-21
8	057786	Green Colorant	3-21
9	057349	Housing	22-28
10	692536	Solder	29-36
11	057892	Natural Colorant	37-41
12	057885/057850	Yellow Colorant	42-46
13	057787	Red Colorant	47-51
14	057784	Base Colorant	52-56
15	057891	Cover – Violet Colorant	57-63
16	425498	Foil-White Hot Stamp	64-70



Report No.: MX10-1165-Serie 495

Date : 2010-06-18

**RESULTS REPORT**  
**INTERTEK TESTING SERVICES**  
**DE MEXICO SA DE CV**  
**LABORATORIO CD. DE MEXICO**

DELIVER TO:

Littelfuse, S.A. de C.V.

Blvd. Fausto Z. mtz. 1800, Col. Magisterio Sección 38, Piedras  
Negras, Coahuila

ATTENTION: Ing. Mario A. Falcón

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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. 11660, México, D.F. Tel.: 50912150 Fax: 55407863  
[www.intertek.com](http://www.intertek.com)

01

**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

NP

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

\*\*\*\*\*

# TEST CONDUCTED

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

- 16) Serie 495 P/N: 48410
- 17) Serie 495 P/N 80625
- 18) Serie 495 P/N: 80624

# TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	$\Omega$ RESULT (ppm)			Limit
	(16)	(17)	(18)	
Cadmium (Cd) content	ND	ND	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)

### 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	Ω RESULT (ppm)			Limit
	19)	(20)	(21)	
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 <sup>6+</sup> )	ND	ND	ND	0,1% (1000 ppm)
<b>POLYBROMINATED BIPHENYLS (PBBs)</b>	ND	ND	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	---
<b>POLYBROMINATED DIPHENYL ETHERS (PBDEs)</b>	ND	ND	ND	0,1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND	ND	ND	---
Dibromodiphenyl (DiBDE)	ND	ND	ND	---
Tribromodiphenyl (TriBDE)	ND	ND	ND	---
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	---
Nonabromodiphenyl (NonaBDE)	ND	ND	ND	---
Decabromodiphenyl (DecaBDE)	ND	ND	ND	---

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**Intertek Testing Services de México, S.A. de C.V.**

Bldv. Manuel Ávila Camacho No. 182 Col. Lomas de Chapultepec

C.P. 11650, México, D.F. Tel.: 50912150 Fax: 55407863

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### TEST CONDUCTED

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

22) Serie 495 P/N: 057785

23) Serie 495 P/N: 057786

### TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	$\Omega$ RESULT (ppm)		Limit
	(22)	(23)	
Cadmium (Cd) content	ND	ND	0,01% (100 ppm)
Lead (Pb) content	14,100	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	0,1% (1000 ppm)
<b>POLYBROMINATED BIPHENYLS (PBBs)</b>	ND	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	ND	---
Dibromobiphenyl (DiBB)	ND	ND	---
Tribromobiphenyl (TriBB)	ND	ND	---
Tetrabromobiphenyl (TetraBB)	ND	ND	---
Pentabromobiphenyl (PentaBB)	ND	ND	---
Hexabromobiphenyl (HexaBB)	ND	ND	---
Heptabromobiphenyl (HeptaBB)	ND	ND	---
Octabromobiphenyl (OctaBB)	ND	ND	---
Nonabromobiphenyl (NonaBB)	ND	ND	---
Decabromobiphenyl (DecaBB)	ND	ND	---
<b>POLYBROMINATED DIPHENYL ETHERS (PBDEs)</b>	ND	ND	0,1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND	ND	---
Dibromodiphenyl (DiBDE)	ND	ND	---
Tribromodiphenyl (TriBDE)	ND	ND	---
Tetrabromodiphenyl (TetraBDE)	ND	ND	---
Pentabromodiphenyl (PentaBDE)	ND	ND	---
Hexabromodiphenyl (HexaBDE)	ND	ND	---
Heptabromodiphenyl (HeptaBDE)	ND	ND	---
Octabromodiphenyl (OctaBDE)	ND	ND	---
Nonabromodiphenyl (NonaBDE)	ND	ND	---
Decabromodiphenyl (DecaBDE)	ND	ND	---

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

$\mu\text{g}/\text{cm}^2$  = microgram per square centimeter.

mg/kg WITH  $50\text{cm}^2$  = milligram per kilogram with 50 square centimeter.

< = less than.

ND = Not detected.

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

These Accreditations only apply for the methods listed in such. Not accredited under EMA  $\Omega$ .

Prepared and checked by :

For Intertek

*Irra López*  
*De la*  
*Carla de la*



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 MX10 1165-17 WERE TESTED TOGETHER.

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

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

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

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

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10 1165-22 WERE TESTED TOGETHER.

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

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07



**Test method :**

<u>No. de Muestra</u>	<u>Testing item</u>	<u>Ω Testing method</u>	<u>Quality control Batch:</u>	<u>Analysis Date:</u>	<u>Analyzed By:</u>	<u>Reporting limit ppm</u>
	Chromium (Cr <sup>6+</sup> ) content	With reference to USEPA 3060, by EPA 7196	QHU2009-3p99,100	2010-06-05	MTCM	2,0

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

<u>No. de Muestra</u>	<u>Testing item</u>	<u>Ω Testing method</u>	<u>Quality control Batch:</u>	<u>Analysis Date:</u>	<u>Analyzed By:</u>	<u>Reporting limit ppm</u>
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

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<u>No. de Muestra</u>	<u>Testing item</u>	<u>Ω Testing method</u>	<u>Quality control Batch:</u>	<u>Analysis Date:</u>	<u>Analyzed By:</u>	<u>Reporting limit ppm</u>
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

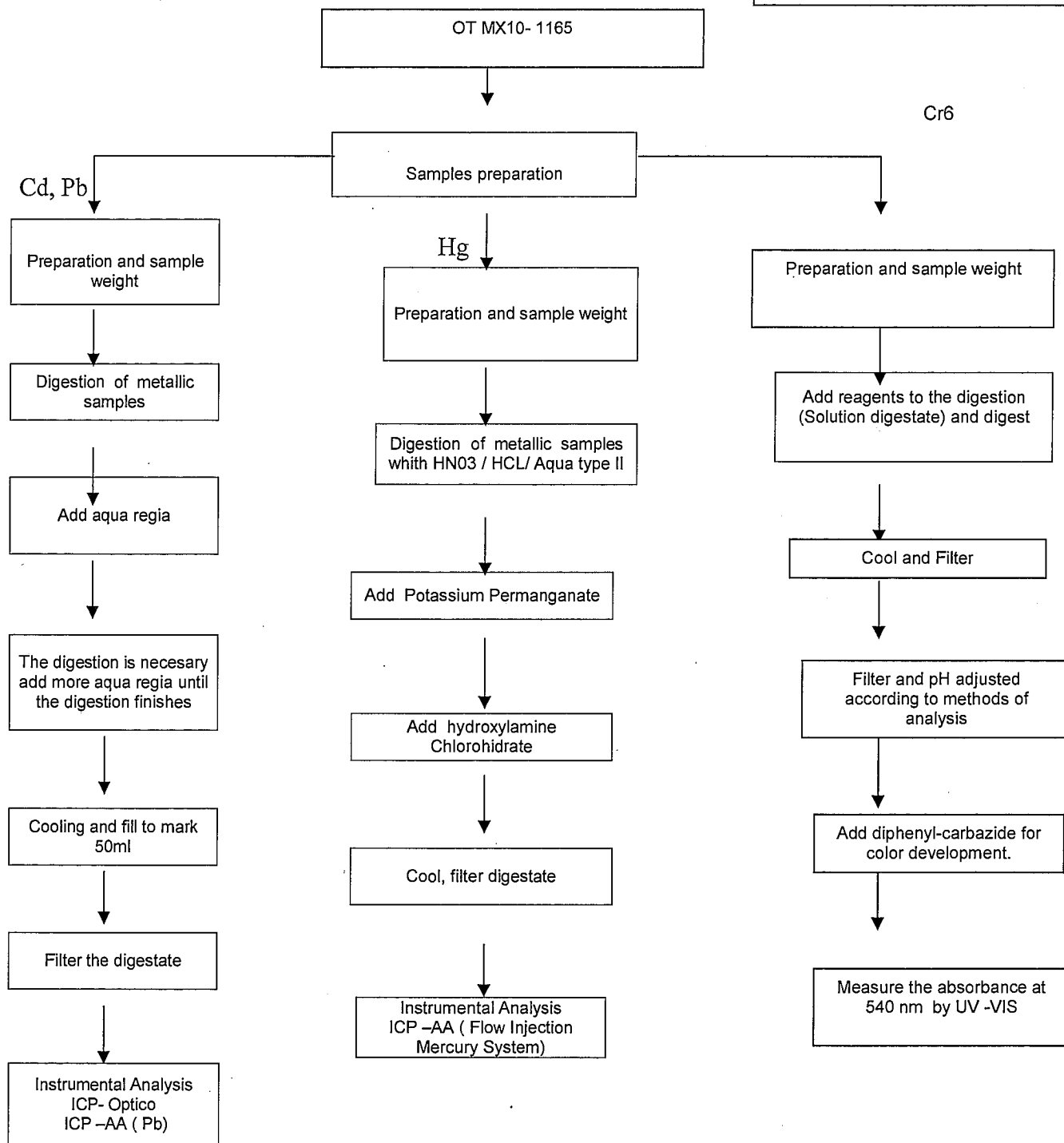
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16	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p23	2010-06-02	JAPM	0,083
17	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p23	2010-06-02	JAPM	0,083
18	Mercury (Hg) content	With reference to USEPA 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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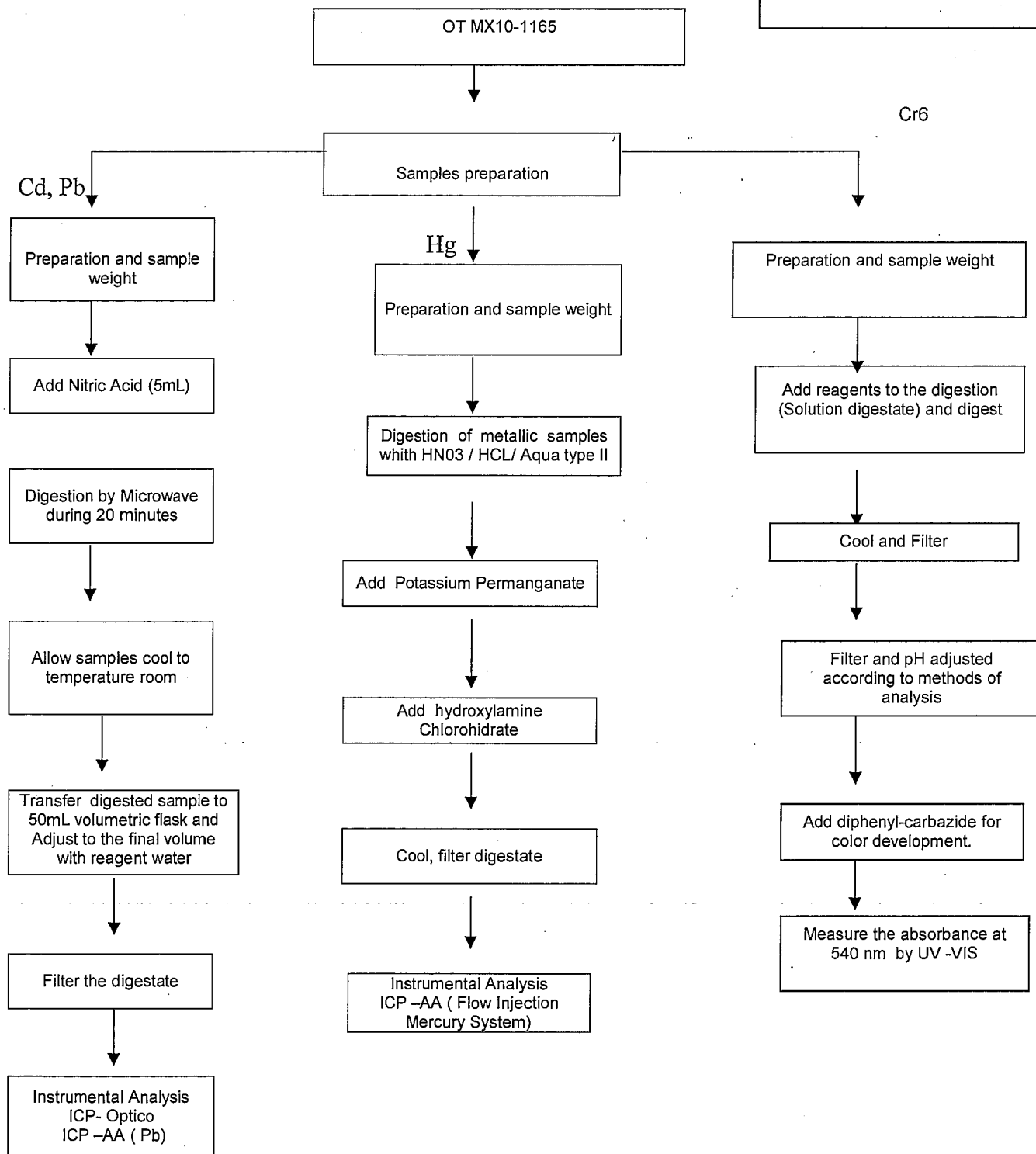


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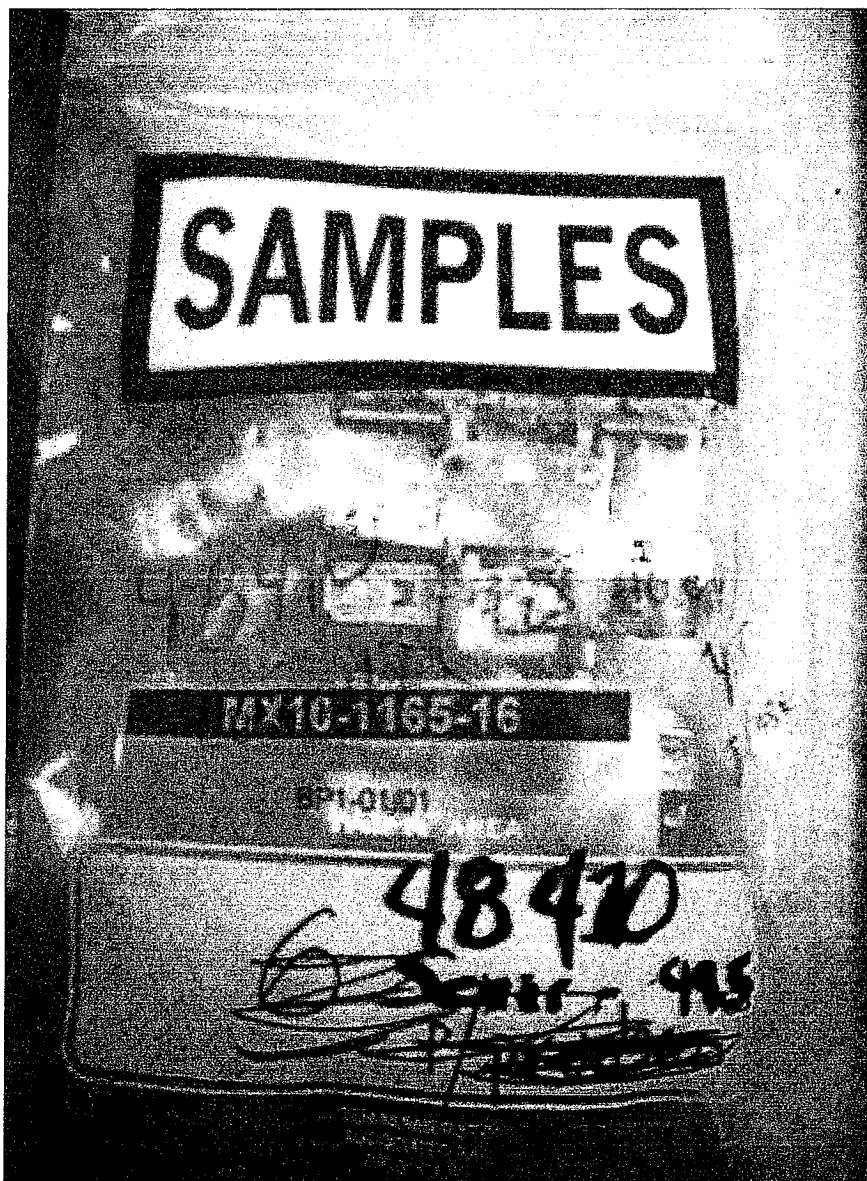
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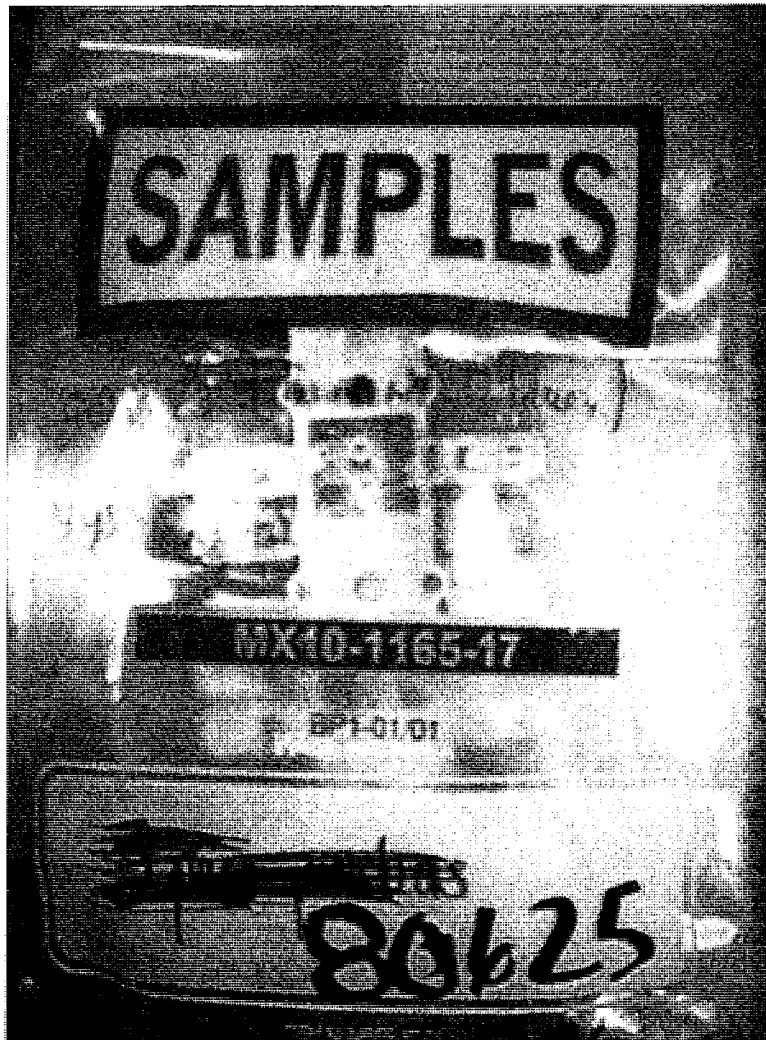
1ª. Emisión Junio 2005, 1ª Revisión Junio 26, 2009.

ILTA/003/GENS-F8

**MX10-1165-16**



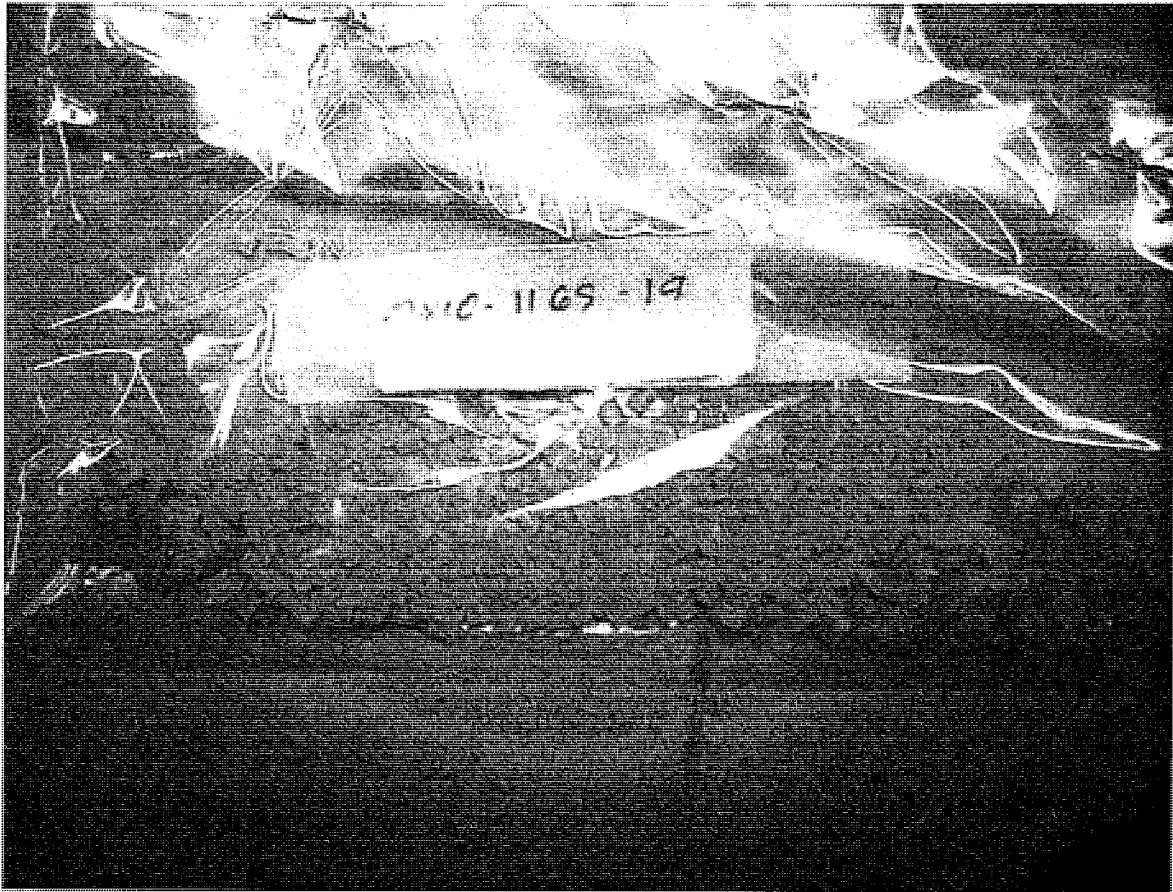
**MX10-1165-17**



**MX10-1165-18**



**MX10-1165-19**





**MX10-1165-20**



**MX10-1165-21**



**MX10-1165-21**



**MX10-1165-22**



**MX10-1165-23**





## Test Report

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  
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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# Test Report

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
				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 non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F , Cl , 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 (Cl) (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-Iodine (I) (CAS No.: 014362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	936

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# Test Report

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

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



Test Item (s):	Unit	Method	MDL	Result
				No.1
Sum of PBBs	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	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			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
Sum of PBDEs			-	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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## Test Report

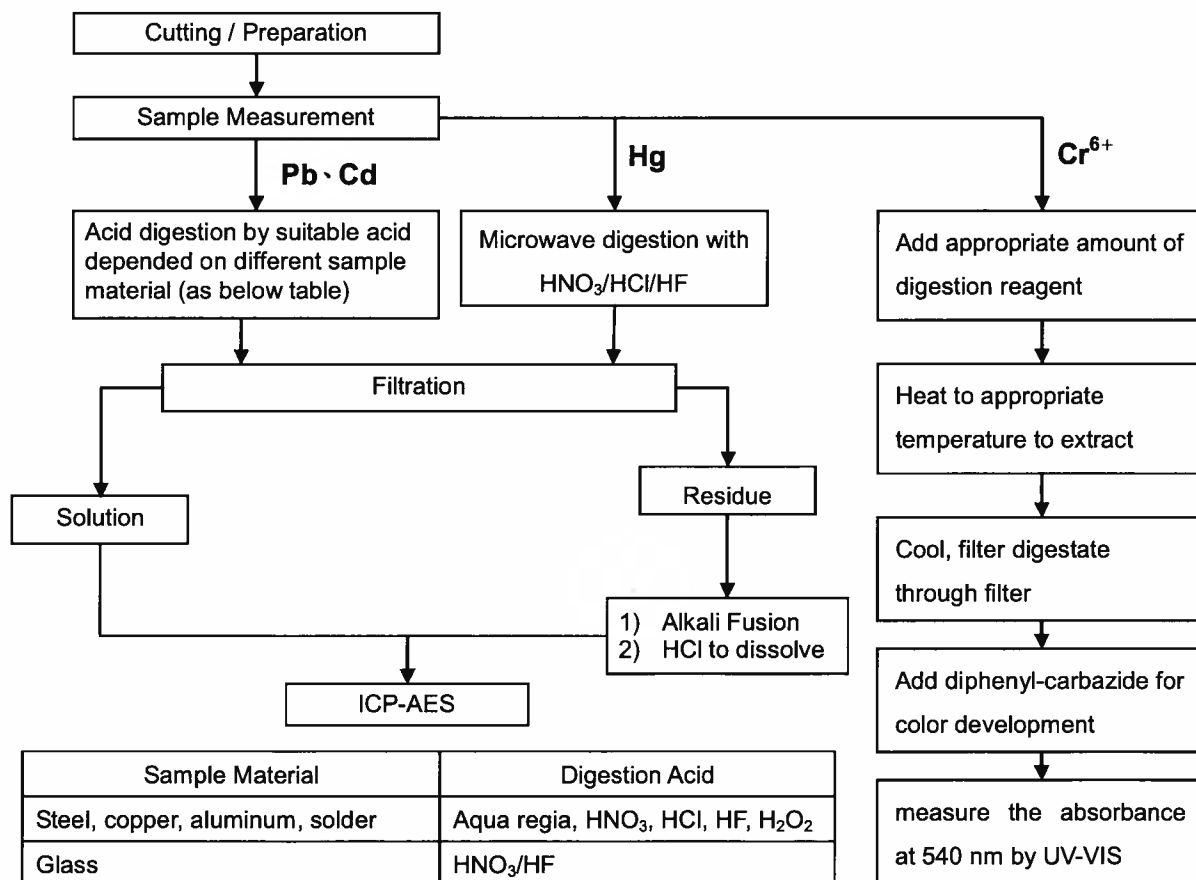
No. : CE/2008/78361 Date : 2008/08/04 Page : 4 of 7

LITTELFUSE INC.

800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



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



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

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# Test Report

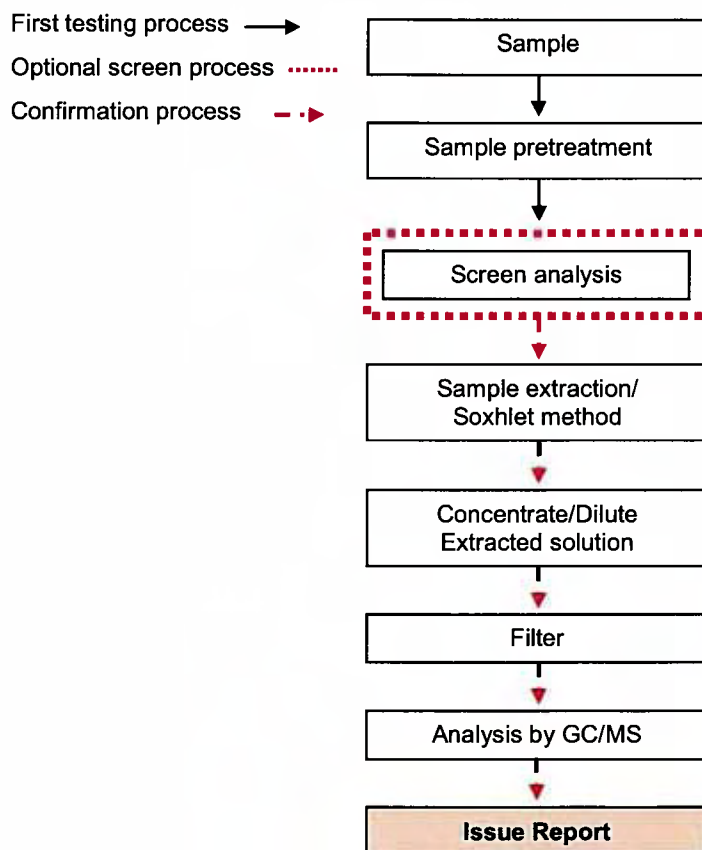
No. : CE/2008/78361 Date : 2008/08/04 Page : 5 of 7

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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## Test Report

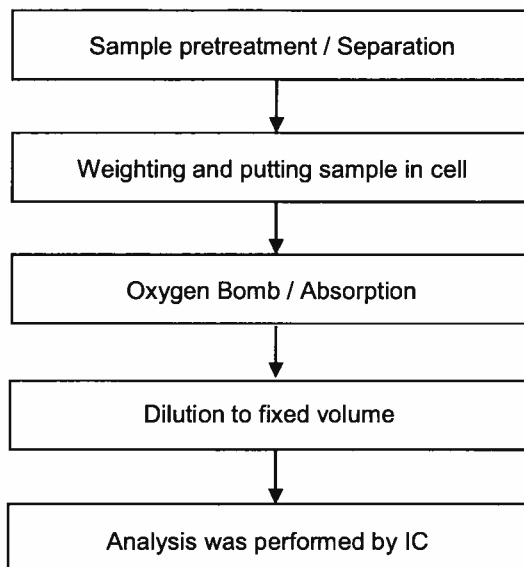
No. : CE/2008/78361 Date : 2008/08/04 Page : 6 of 7

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016

1002805 0000 001 0 00 0000 0000 0000 0000 0000 0000 0000 0000

### 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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## Test Report

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

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



\*\* End of Report \*\*

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## Test Report

No. : CE/2008/85432 Date : 2008/08/25 Page : 1 of 8

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 : SOLDER (99% Tin)  
Style/Item No. : 692536  
Sample Receiving Date : 2008/08/21  
Testing Period : 2008/08/21 TO 2008/08/25

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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# Test Report

No. : CE/2008/85432 Date : 2008/08/25 Page : 2 of 8

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



## Test Result(s)

PART NAME NO.1 : SILVER COLORED SOLDER WIRE

Test Item (s):	Unit	Method	MDL	Result 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	216
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 Spot test / boiling water extraction	**	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Hexavalent Chromium for metallic samples by Spot test / boiling water extraction Method. (See Note 6)	0.02mg/kg with 50 cm <sup>2</sup> surface area	Negative
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F, Cl, 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 (Cl) (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-Iodine (I) (CAS No.: 014362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	n.d.

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# Test Report

No. : CE/2008/85432 Date : 2008/08/25 Page : 3 of 8

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



Test Item (s):	Unit	Method	MDL	Result
				No.1
Sum of PBBs	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	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			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
Sum of PBDEs			-	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.

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## Test Report

No. : CE/2008/85432 Date : 2008/08/25 Page : 4 of 8

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



- Note :
1. mg/kg = ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. " - " = Not Regulated
  5. " --- " = Not Conducted
  6. Spot-test:
    - Negative = Absence of Cr(VI) coating / surface layer.
    - Positive = Presence of Cr(VI) coating / surface layer;
    - (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

### Boiling-water-extraction:

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

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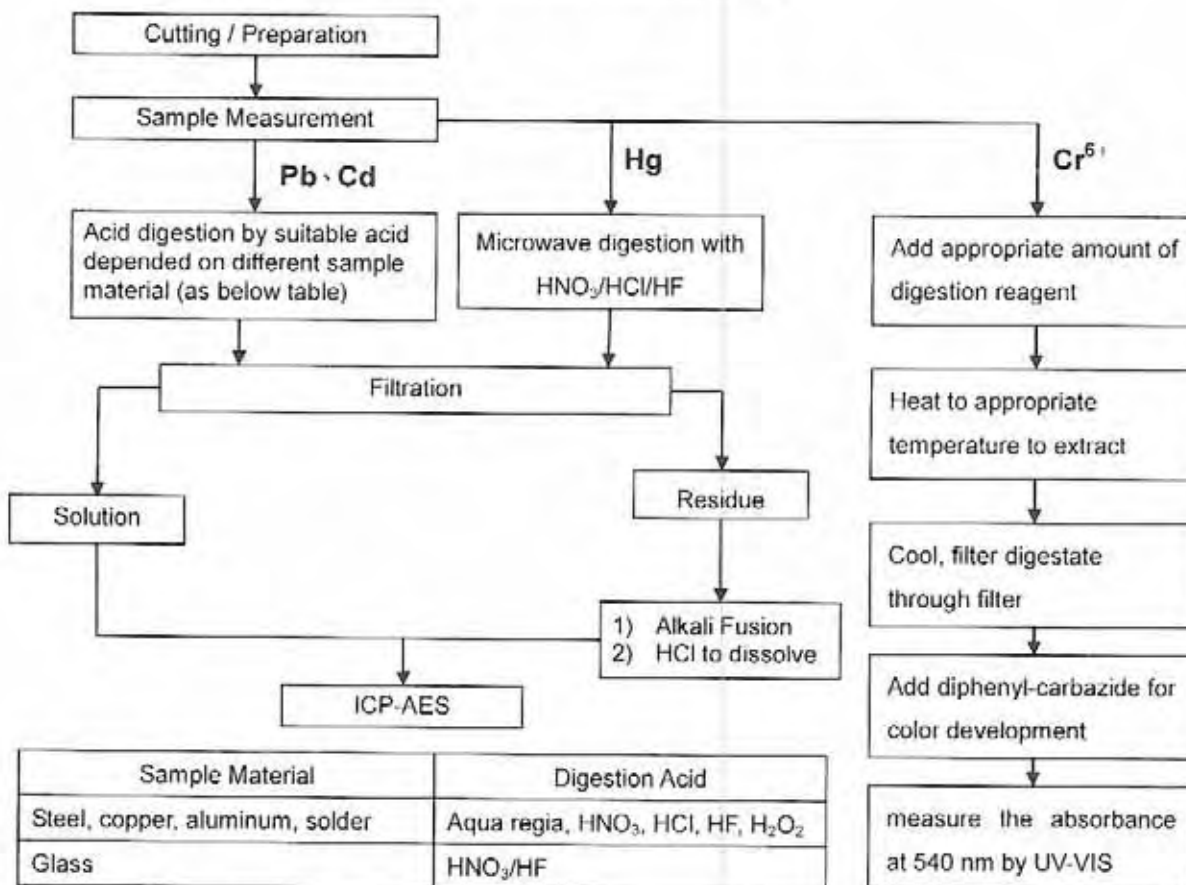
## Test Report

No. : CE/2008/85432 Date : 2008/08/25 Page : 5 of 8

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



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



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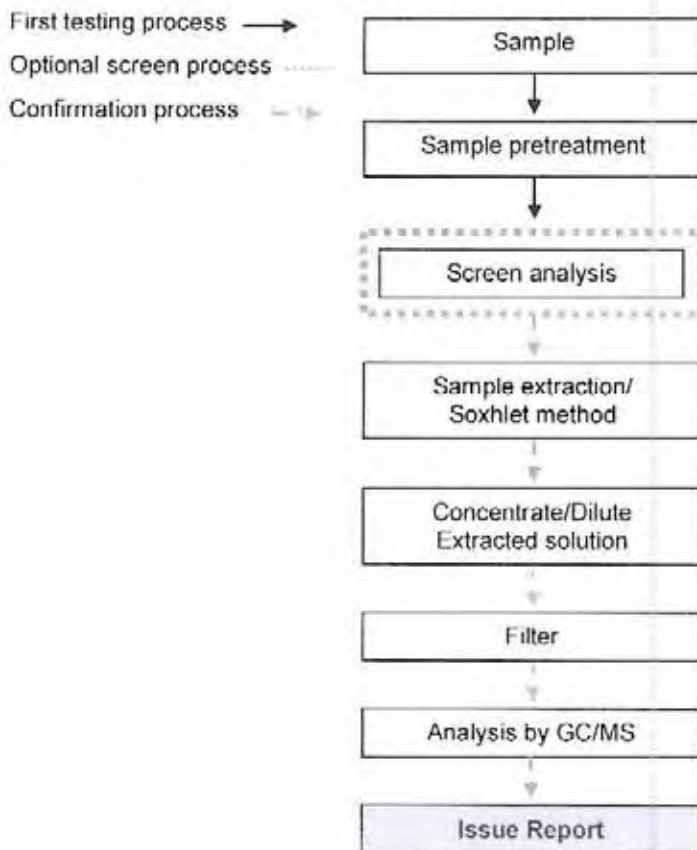
No. : CE/2008/85432 Date : 2008/08/25 Page : 6 of 8

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60018



### 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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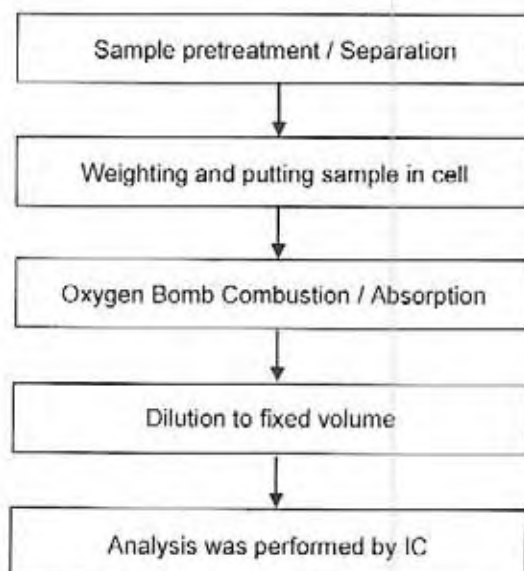
No. : CE/2008/85432 Date : 2008/08/25 Page : 7 of 8

LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### Analytical flow chart of halogen content

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



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## Test Report

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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



# CE / 2008 / 85432



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

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## Test Report

No. : CE/2008/15644

Date : 2008/01/24

Page : 1 of 5

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description : BASE COLORANT  
Style/Item No. : 057892  
Facility : DP-AUTOMOTIVE  
Sample Receiving Date : 2008/01/21  
Testing Period : 2008/01/21 TO 2008/01/24


=====

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321, Ed.1 111/54/CDV  
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
- (5) Determination of PBB and PBDE by GC/MS.

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

## Test Report

No. : CE/2008/15644

Date : 2008/01/24

Page : 2 of 5

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
<b>Sum of PBBs</b>	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	-

### TEST PART DESCRIPTION:

NO.1 : WHITE PLASTIC PELLETS

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. According to 2005/717/EC DecaBDE is exempt.

5. "-" = Not Regulated

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

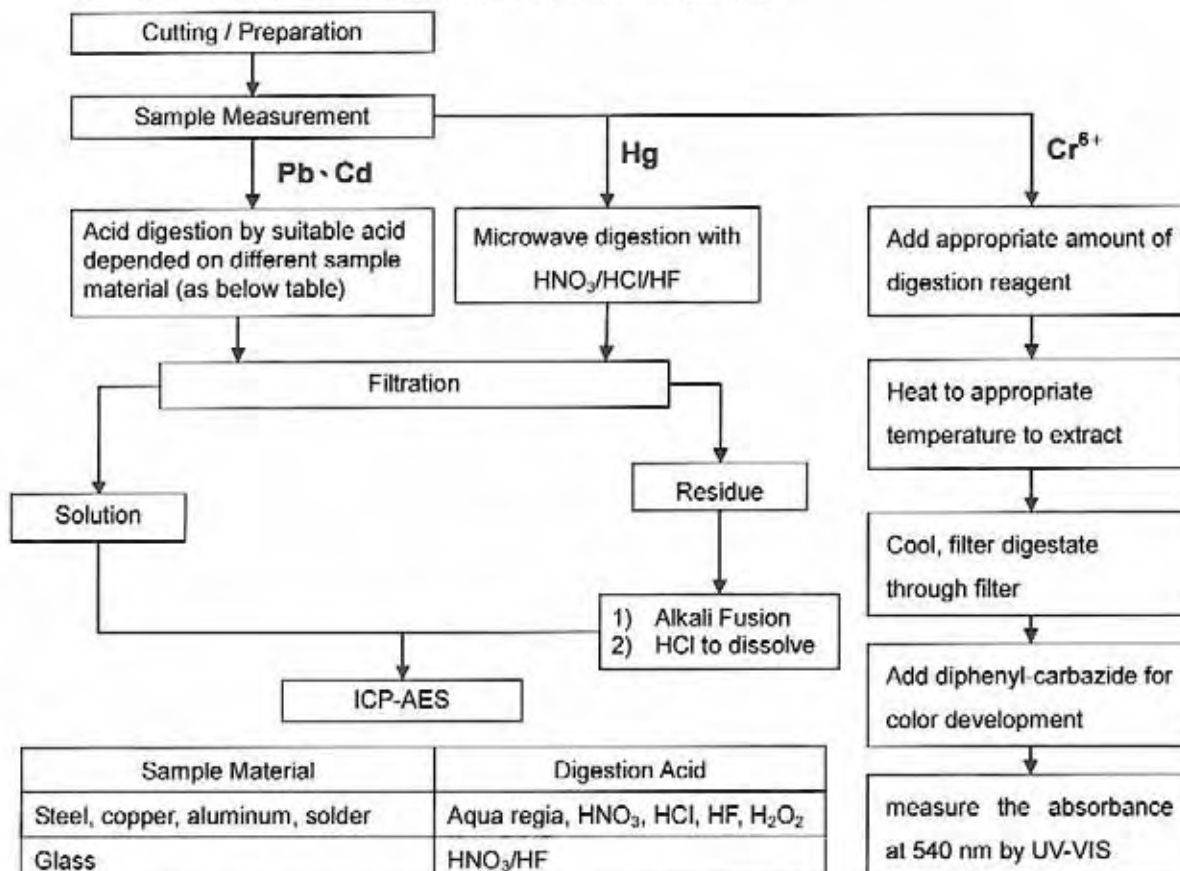


1) These samples were dissolved totally by pre-conditioning method according to below flow chart.

(Cr<sup>6+</sup> test method excluded)

2) Name of the person who made measurement: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

## Test Report

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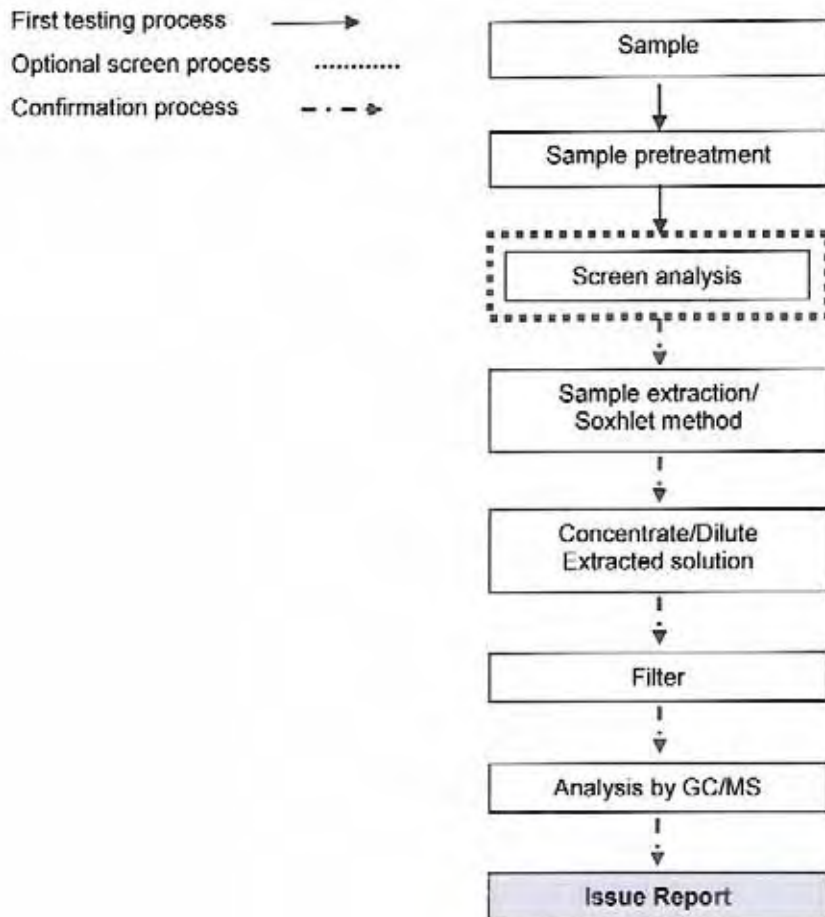
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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



### PBB/PBDE analytical FLOW CHART





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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



\*\* End of Report \*\*

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LITTELFUSE INC.

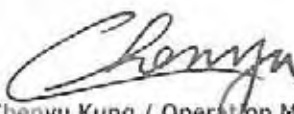
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description	:	BASE COLORANT
Style/Item No.	:	057885
Facility	:	DP-AUTOMOTIVE
Sample Receiving Date	:	2008/01/21
Testing Period	:	2008/01/21 TO 2008/01/24

Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	<p>With reference to IEC 62321, Ed.1 111/54/CDV            Procedures for the Determination of Levels of Regulated            Substances in Electrotechnical Products.</p> <p>(1) Determination of Cadmium by ICP-AES.            (2) Determination of Lead by ICP-AES.            (3) Determination of Mercury by ICP-AES.            (4) Determination of Hexavalent Chromium for non-metallic            samples by UV/Vis Spectrometry.            (5) Determination of PBB and PBDE by GC/MS.</p>
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

# Test Report

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
<b>Sum of PBBs</b>	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	-

## TEST PART DESCRIPTION:

NO.1 : ORANGE PLASTIC PELLETS

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. According to 2005/717/EC DecaBDE is exempt.

5. "-" = Not Regulated

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

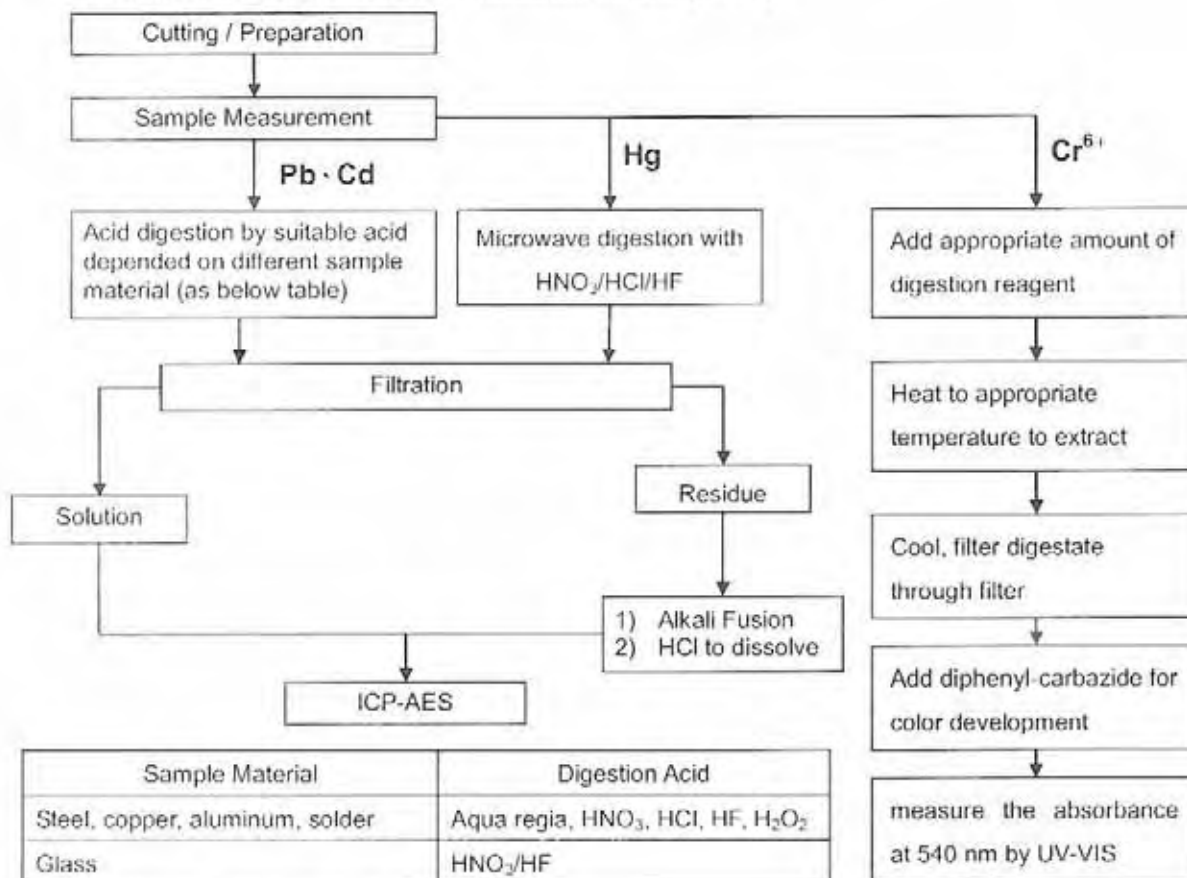


1) These samples were dissolved totally by pre-conditioning method according to below flow chart.

(Cr<sup>6+</sup> test method excluded)

2) Name of the person who made measurement: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion



## Test Report

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Date : 2008/01/24

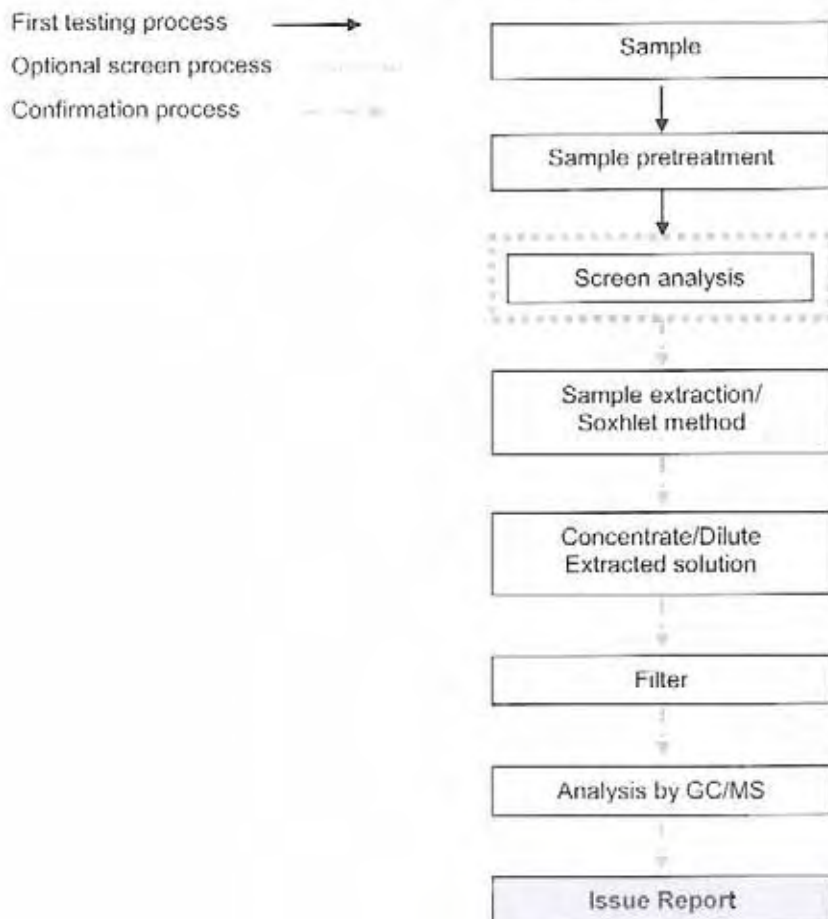
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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



### PBB/PBDE analytical FLOW CHART



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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



\*\* End of Report \*\*

## Test Report

No. : CE/2008/15642 Date : 2008/01/24 Page : 1 of 5

LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description : BASE COLORANT  
Style/Item No. : 057787  
Facility : DP-AUTOMOTIVE  
Sample Receiving Date : 2008/01/21  
Testing Period : 2008/01/21 TO 2008/01/24


=====

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321, Ed.1 111/54/CDV  
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
- (5) Determination of PBB and PBDE by GC/MS.

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

## Test Report

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
<b>Sum of PBBs</b>	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	-

### TEST PART DESCRIPTION:

NO.1 : RED PLASTIC PELLETS

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. According to 2005/717/EC DecaBDE is exempt.

5. "-" = Not Regulated



## Test Report

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LITTELFUSE INC.

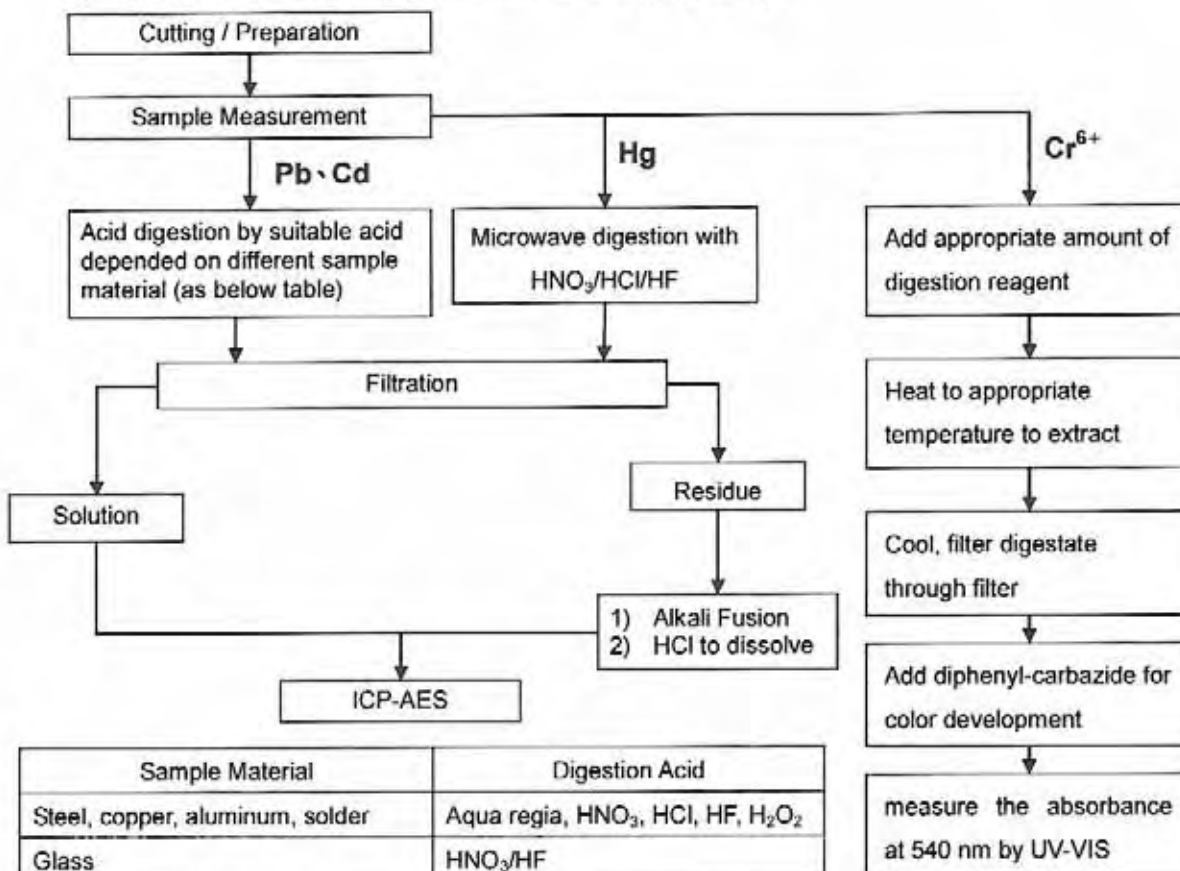
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)

2) Name of the person who made measurement: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

## Test Report

No. : CE/2008/15642

Date : 2008/01/24

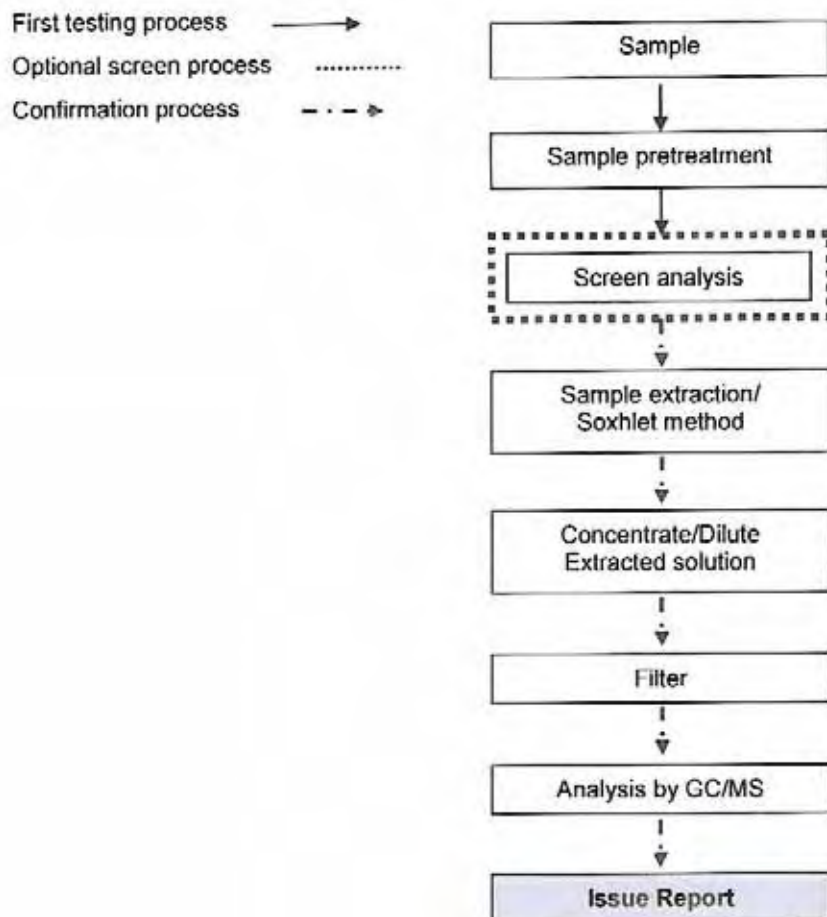
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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



### PBB/PBDE analytical FLOW CHART



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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

## Test Report

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LITTELFUSE INC.


800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description	:	BASE COLORANT
Style/Item No.	:	057784
Facility	:	DP-AUTOMOTIVE
Sample Receiving Date	:	2008/01/21
Testing Period	:	2008/01/21 TO 2008/01/24

<b>Test Requested</b>	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	:	<p>With reference to IEC 62321, Ed.1 111/54/CDV            Procedures for the Determination of Levels of Regulated            Substances in Electrotechnical Products.</p> <ol style="list-style-type: none"> <li>(1) Determination of Cadmium by ICP-AES.</li> <li>(2) Determination of Lead by ICP-AES.</li> <li>(3) Determination of Mercury by ICP-AES.</li> <li>(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.</li> <li>(5) Determination of PBB and PBDE by GC/MS.</li> </ol>
<b>Test Result(s)</b>	:	Please refer to next page(s).

  
 Chenyu Kung / Operation Manager  
 Signed for and on behalf of  
 SGS TAIWAN LTD.  
 Chemical Laboratory – Taipei



# Test Report

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Date : 2008/01/24

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
<b>Sum of PBBs</b>	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	-

## TEST PART DESCRIPTION:

NO.1 : BLUE PLASTIC PELLETS

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. According to 2005/717/EC DecaBDE is exempt.

5. "-" = Not Regulated

## Test Report

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LITTELFUSE INC.

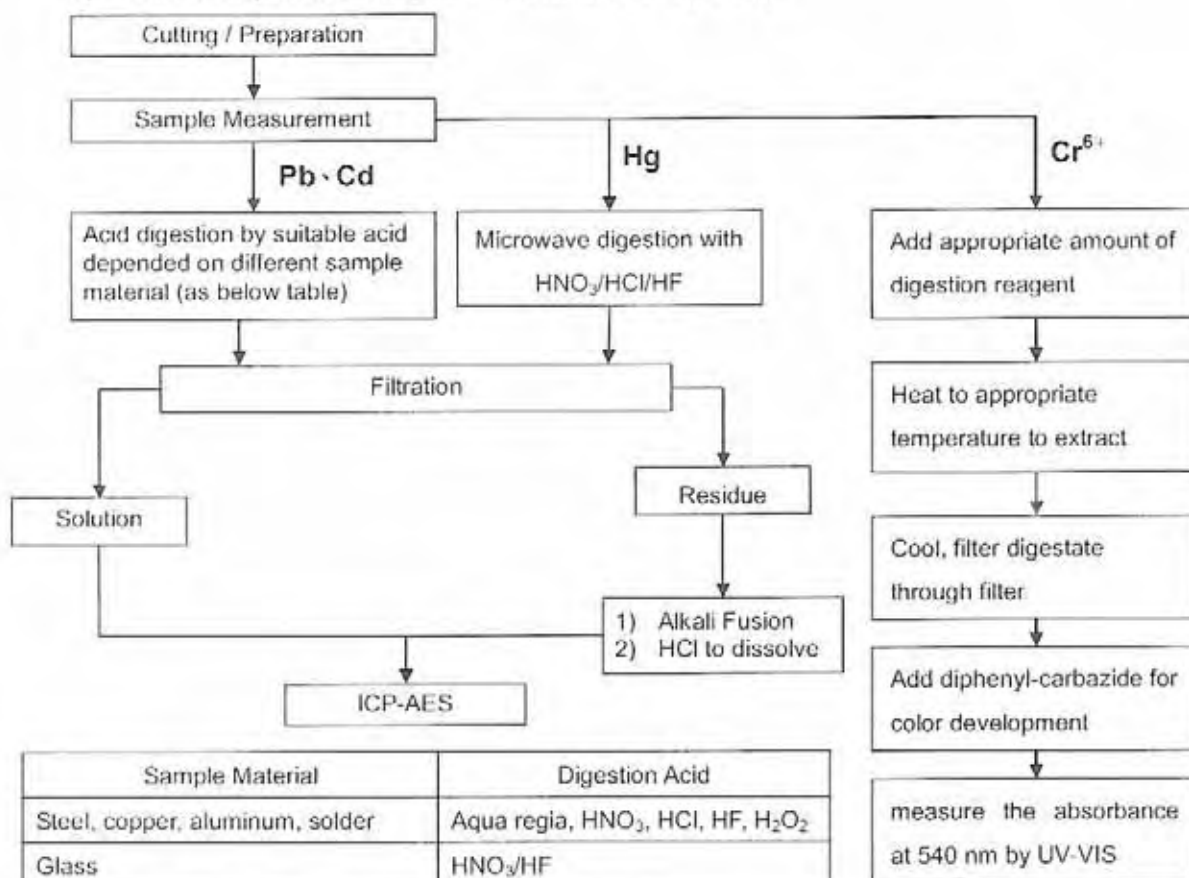
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>5+</sup> test method excluded)

2) Name of the person who made measurement: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

## Test Report

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Date : 2008/01/24

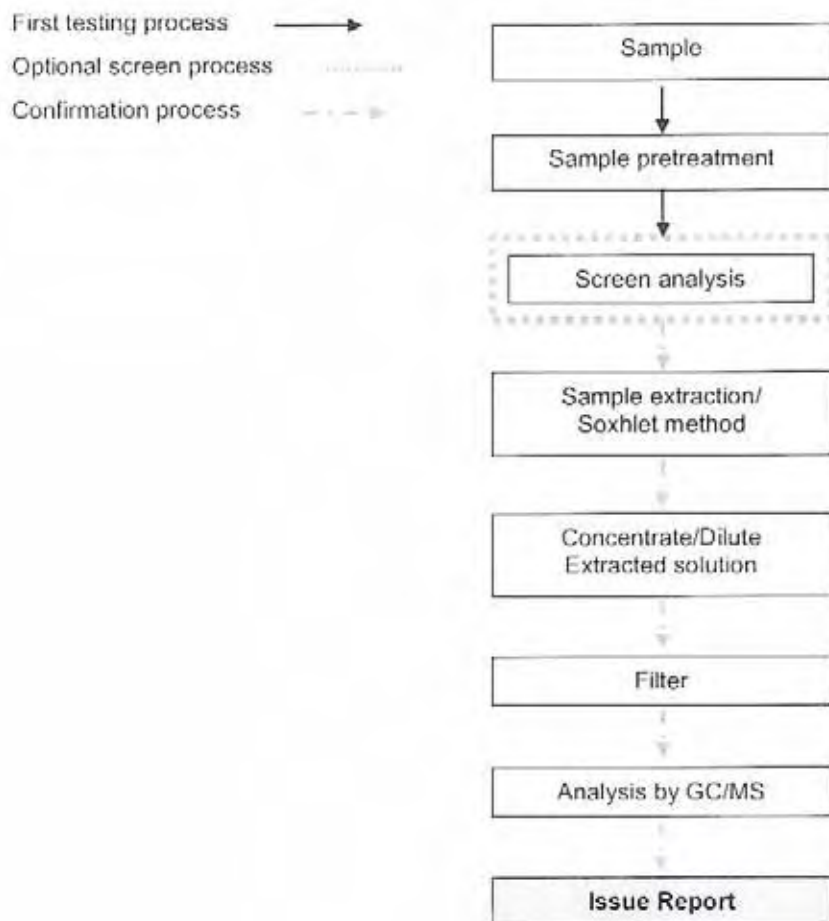
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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



### PBB/PBDE analytical FLOW CHART



## Test Report

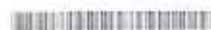
No. : CE/2008/15639

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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



## Test Report

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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	:	VIOLET COLORANT
Part Number	:	057891
Facility	:	PIEDRAS / AUTOMOTIVE
Sample Receiving Date	:	2008/06/19
Testing Period	:	2008/06/19 TO 2008/06/25

=====

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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## Test Report

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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### Test Result(s)

PART NAME NO.1 : BLACK PLASTIC PELLETS

Test Item (s):	Unit	Method	MDL	Result 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 non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F , Cl , Br , I content.	---	---
Halogen-Fluorine (F) (CAS No.: 007782-41-4)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Fluorine content.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	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.: 007726-95-6)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Bromine content.	50	120
Halogen-Iodine (I) (CAS No.: 007553-56-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	n.d.

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## Test Report

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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



Test Item (s):	Unit	Method	MDL	Result
				No.1
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	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			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
<b>Sum of PBDEs (Mono to Nona)</b>			-	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.
<b>Sum of PBDEs (Mono to Deca)</b>			-	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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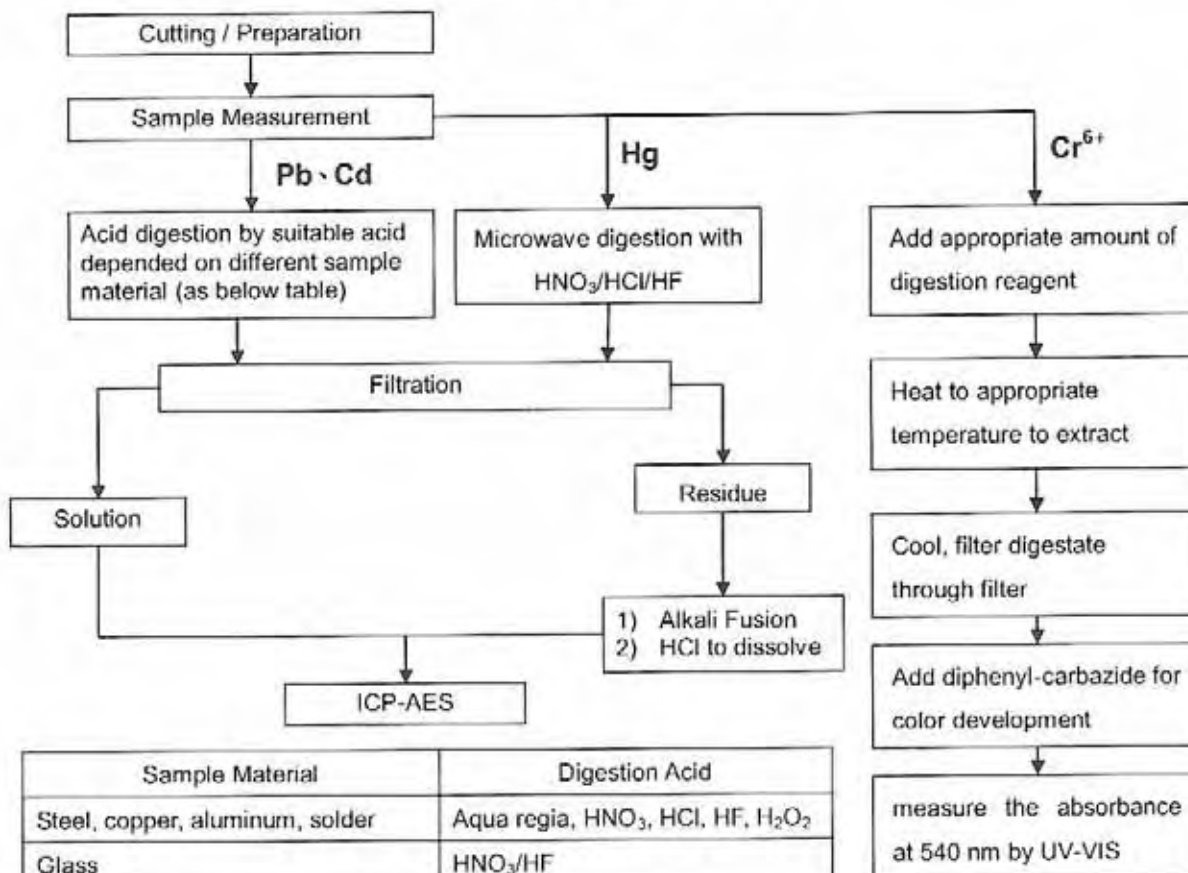
## Test Report

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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



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



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

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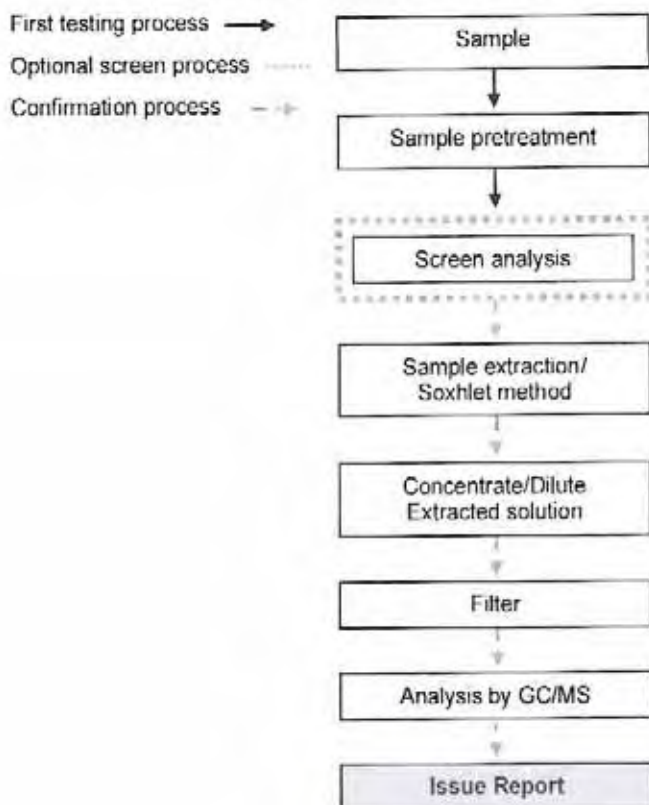
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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### 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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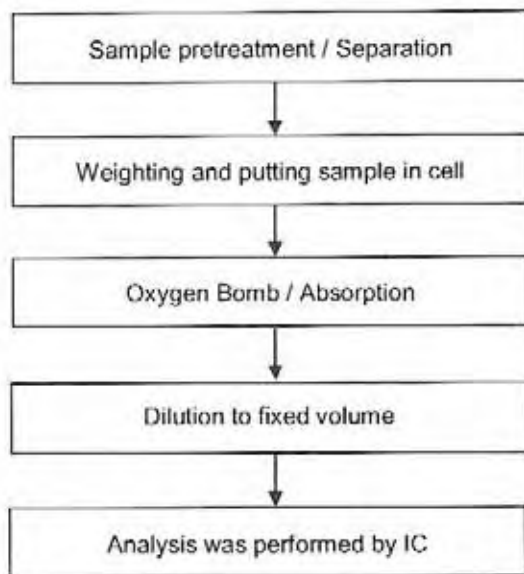
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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### 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



# CE / 2008 / 65787



\*\* End of Report \*\*

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## Test Report

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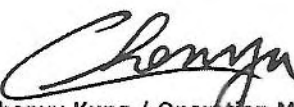
LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



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

Sample Description	:	WHITE FOIL
Style/Item No.	:	425498
Sample Receiving Date	:	2008/09/17
Testing Period	:	2008/09/17 TO 2008/09/23

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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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### Test Result(s)

PART NAME NO.1 : WHITE FOIL

Test Item (s):	Unit	Method	MDL	Result
				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 non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F , Cl , 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 (Cl) (CAS No.: 022537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Chlorine content.	50	10500
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-Iodine (I) (CAS No.: 014362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	n.d.

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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



Test Item (s):	Unit	Method	MDL	Result
				No.1
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	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			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
<b>Sum of PBDEs</b>			-	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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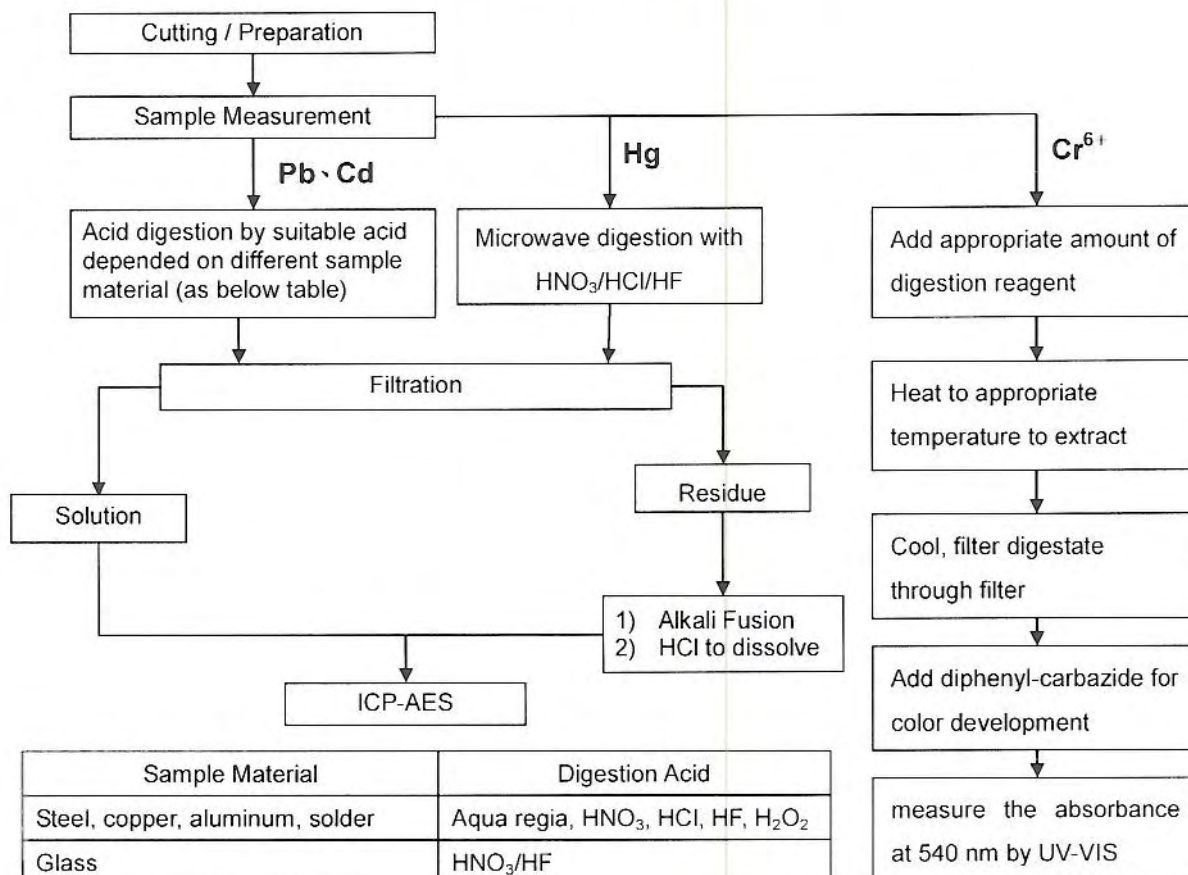
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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



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



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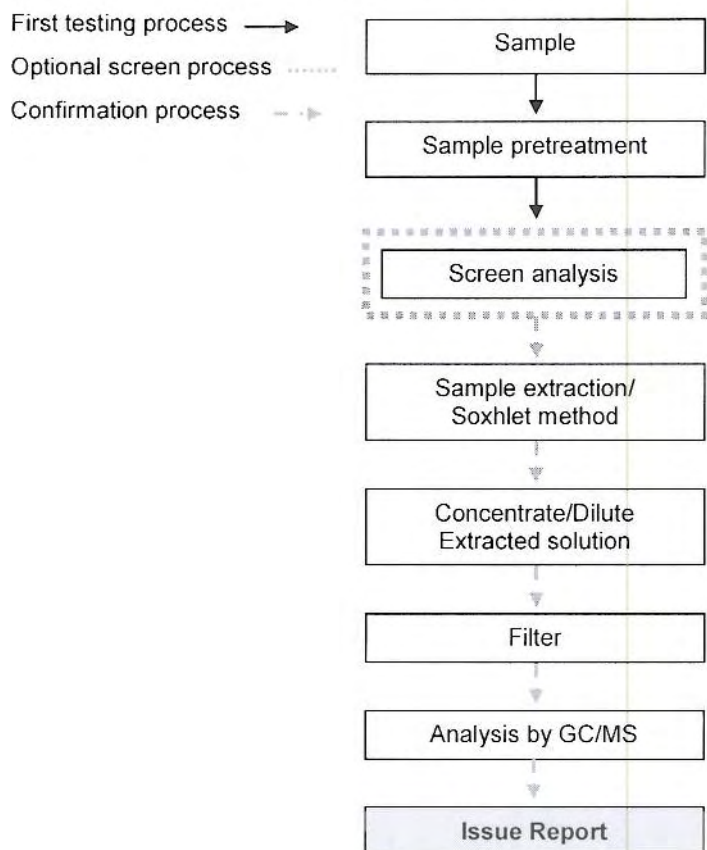
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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### 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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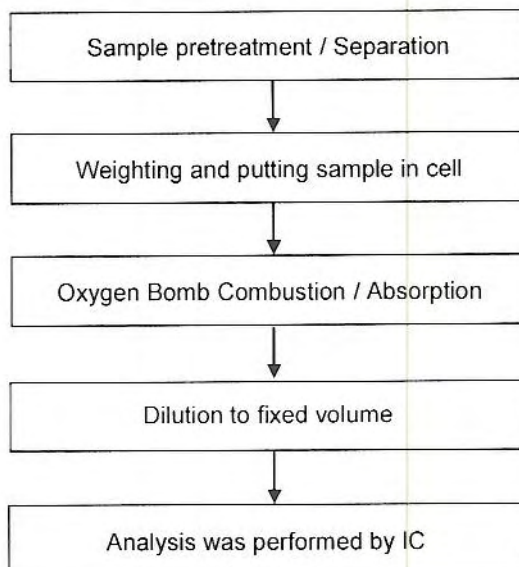
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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



### Analytical flow chart of halogen content

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

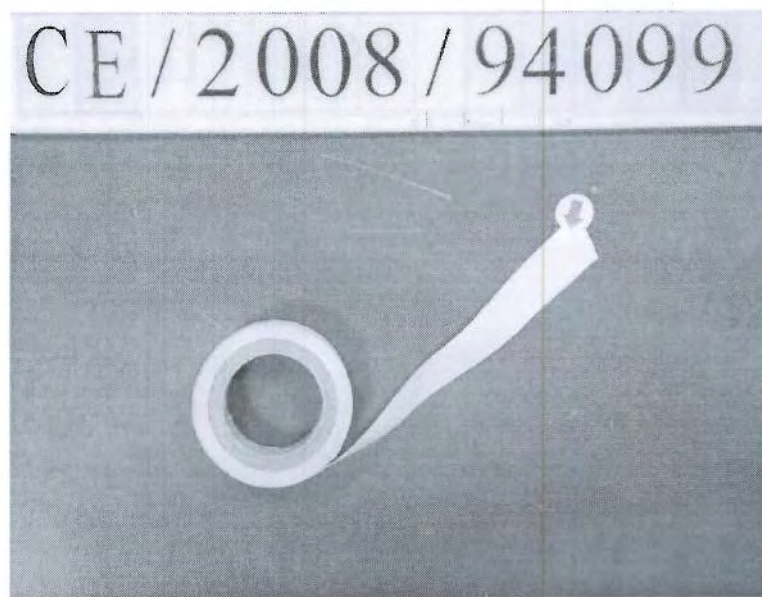


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LITTELFUSE INC.  
800 E. NORTHWEST HIGHWAY, DES PLAINES, IL 60016



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