



ICP Test Report Certification Packet

Company name: Littelfuse, Inc.
Product Series: Megafuse Holder
Product #: 02981028HXFC
Issue Date: May 5, 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: 
KRISTEEN BACILA

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

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

< Raw Materials Used

Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks : .



Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	NA	Base (AMODEL AFA-6133 VO ZBK)	3-7
2	NA	Cover (TPV-251 - Santoprene)	8-13
3	NA	Stud - XRF analysis	14

Test Report No. : CE/2008/A2410 Date : 2008/10/20 Page : 1 of 5

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

Sample Description : AMODEL AFA-6133 V0 ZBK 324
Sample Receiving Date : 2008/10/13
Testing Period : 2008/10/13 TO 2008/10/20

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

Test Method : With reference to IEC 62321/2nd CDV (111/95/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

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Test Report

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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)	9	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(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
Sum of PBDEs		n.d.	-
Monobromodiphenyl ether		n.d.	5
Dibromodiphenyl ether		n.d.	5
Tribromodiphenyl ether		n.d.	5
Tetrabromodiphenyl ether		n.d.	5
Pentabromodiphenyl ether		n.d.	5
Hexabromodiphenyl ether		n.d.	5
Heptabromodiphenyl ether		n.d.	5
Octabromodiphenyl ether		n.d.	5
Nonabromodiphenyl ether	n.d.	5	
Decabromodiphenyl ether	n.d.	5	

TEST PART DESCRIPTION:

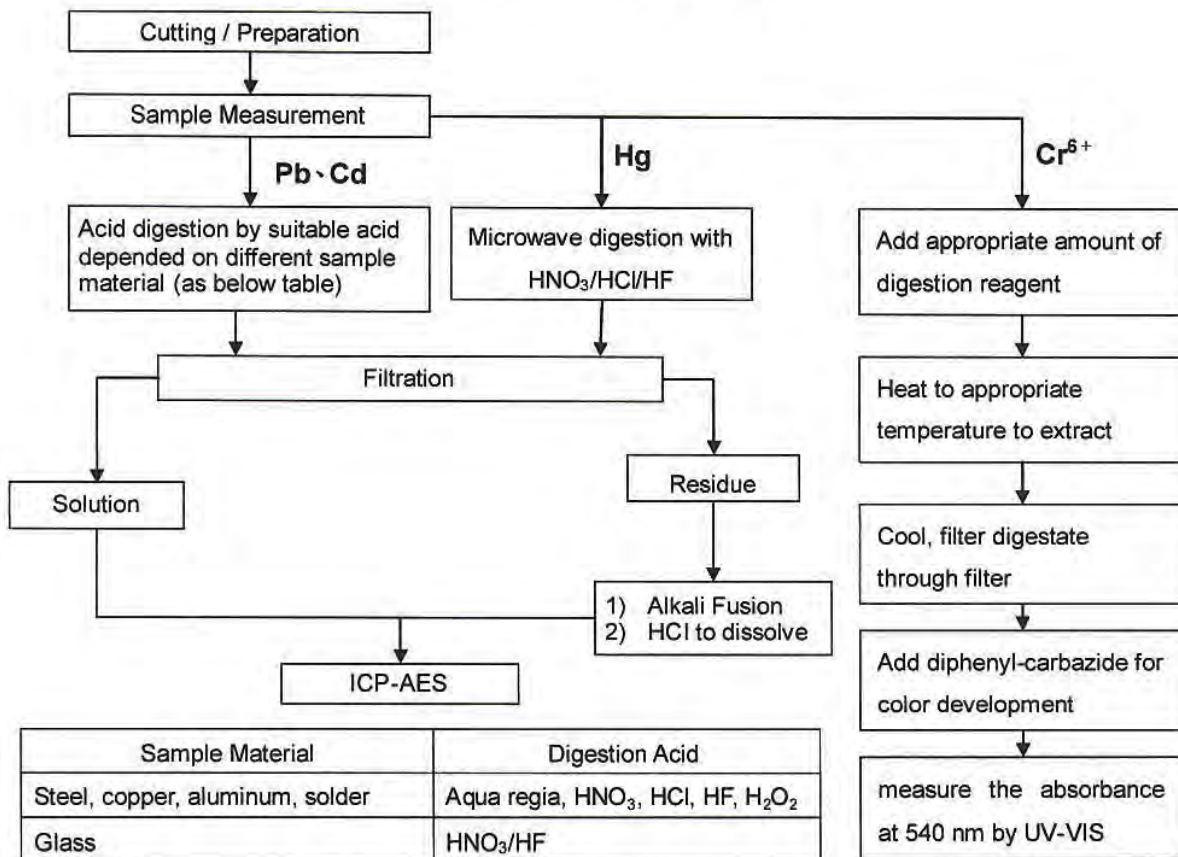
NO.1 : BLACK PLASTIC PELLETS

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. "-" = Not Regulated

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- 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



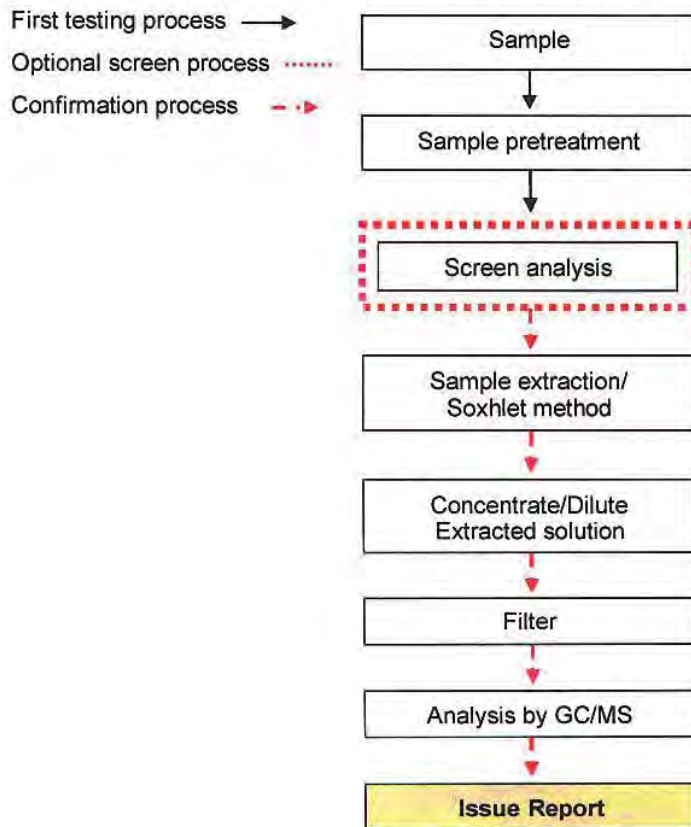
Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Any acid to total digestion

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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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**** End of Report ****

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測試報告 Test Report

號碼(No.): CE/2008/19392 日期(Date): 2008/02/13 頁數(Page): 1 of 6



以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : SANTOPRENE
樣品型號(Style/Item No.) : 251系列 (251 SERIES)
收件日期(Sample Receiving Date) : 2008/01/31
測試期間(Testing Period) : 2008/01/31 TO 2008/02/13

=====
測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求。(In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).
測試方法(Test Method) : 參考 IEC 62321, Ed. 1 111/54/CDV 方法檢測。(With reference to IEC 62321, Ed.1 111/54/CDV. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products).
(1) 用感應耦合電漿原子發射光譜儀檢測鎘含量。 / Determination of Cadmium by ICP-AES.
(2) 用感應耦合電漿原子發射光譜儀檢測鉛含量。 / Determination of Lead by ICP-AES.
(3) 用感應耦合電漿原子發射光譜儀檢測汞含量。 / Determination of Mercury by ICP-AES.
(4) 針對非金屬材質之樣品，用 UV-VIS 檢測六價鉻含量。 / Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.
測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

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

測試報告 Test Report

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測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)	方法偵測 極限值 (MDL)
		No.1	
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	24	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
多溴聯苯總和 / Sum of PBBs	(5)	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	5
多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-
一溴聯苯醚 / Monobromobiphenyl ether		n.d.	5
二溴聯苯醚 / Dibromobiphenyl ether		n.d.	5
三溴聯苯醚 / Tribromobiphenyl ether		n.d.	5
四溴聯苯醚 / Tetrabromobiphenyl ether		n.d.	5
五溴聯苯醚 / Pentabromobiphenyl ether		n.d.	5
六溴聯苯醚 / Hexabromobiphenyl ether		n.d.	5
七溴聯苯醚 / Heptabromobiphenyl ether		n.d.	5
八溴聯苯醚 / Octabromobiphenyl ether		n.d.	5
九溴聯苯醚 / Nonabromobiphenyl ether		n.d.	5
十溴聯苯醚 / Decabromobiphenyl ether	n.d.	5	
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)	n.d.	-	

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測試部位描述 (TEST PART DESCRIPTION):

NO.1 : 白色塑膠粒 (WHITE PLASTIC PELLETS)

備註(Note):

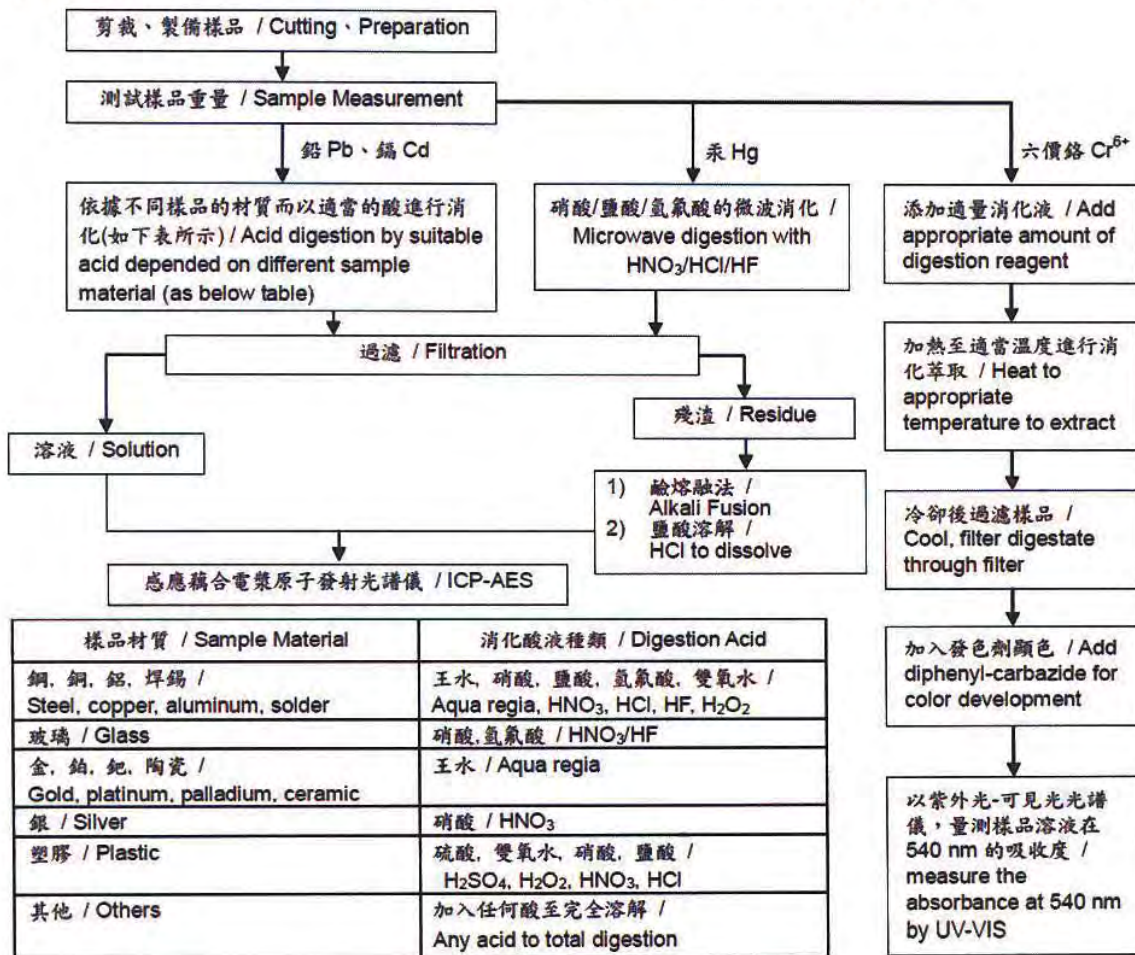
1. mg/kg = ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. 根據2005年10月13日歐盟會議公佈2005/717/EC, 修訂2002/95/EC內容, 通過解除高分子材質中十溴聯苯醚之使用限制. (According to 2005/717/EC DecaBDE is exempt.)
5. "-" = Not Regulated (無規格值)

測試報告 Test Report

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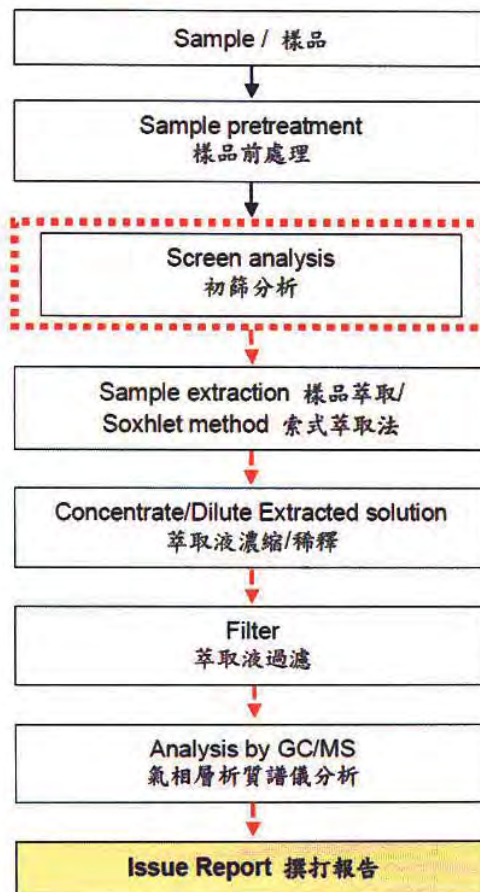
- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
- 3) 測試負責人：龔振裕 / Name of the person in charge of measurement: Chenyu Kung





多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

初次測試程序 / First testing process ———▶
 選擇性篩檢程序 / Optional screen process▶
 確認程序 / Confirmation process - - -▶

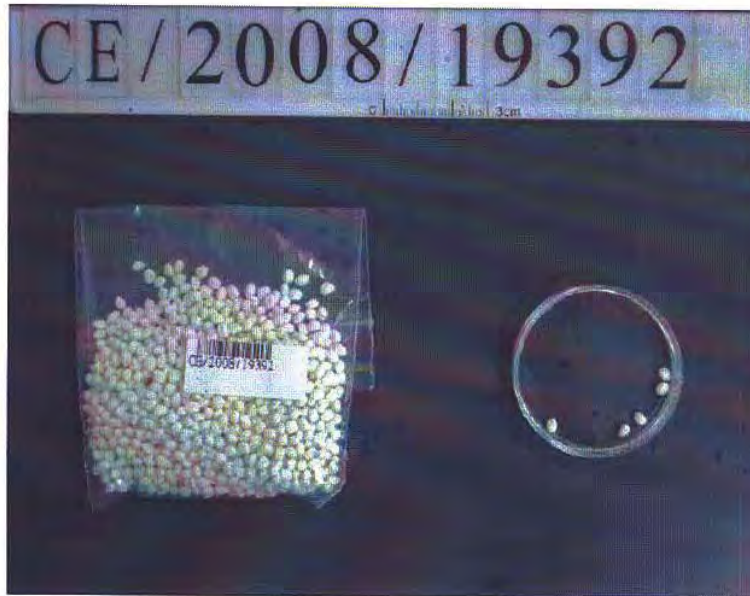


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** 報告結尾 **

Test Equipment :SEA1000A-XRF

Checked by : Neil-tung

RoHS Test Report

Inspector : 蔡玉梅

2009/5/26

NO	Test Data 測試日期	sample from 樣品來源	Part name 品名	Part No. 料號	Vendor Code 廠商代號	Color/ Material 顏色/材質	inspection on 檢測部位	Cd(鎘) 85ppm 100ppm	Pb(鉛) 850ppm 1000ppm	Br(溴) 300ppm 1000ppm	Hg(汞) 700ppm 1000ppm	Cr(鉻) 700ppm 1000ppm	Cl(氯) 參考 N/A	Results	
														XRF	ROHS
287	2009-05-26	IQC	螺絲	SCS-113A	偉昌	鍍鋅/鐵	四方型螺絲	0	0	6	0	2075		N.G.	
288	2009-05-26	IQC	螺絲	SCS-114A	偉昌	鍍鋅/鐵	三叉型螺絲	0	0	38	0	818		O.K.	
289	2009-05-26	IQC	螺絲	SCS-114A	偉昌	鍍鋅/鐵	三叉型螺絲	1	0	32	0	705		O.K.	