

Certificate of non-use of The Controlled Substances

Company name Littelfuse, LP (Subsidiary of Littelfuse, Inc.)

Product Covered Thyristor TO-220 R Package (Non-isolated)

Issue Date October 12, 2006

It is hereby certified by Littelfuse, LP, 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		
		•
	< Product Engineer, Littelfuse,	L.P.>

(1) Parts, sub-materials and unit parts

This document covers Thyristor TO-220 R Package (non-isolated) series products manufactured by Littelfuse, LP. Actual values in this report are taken from S8055R and the result is generally applicable to all Thyristor TO-220 R Package series products supplied by Littelfuse, LP. Please see page 2 for the complete list of part number covered by this report.

- < Homogeneous Materials used >
 Please see figure and table 1 on page 3 and table 2 on page 4 of this document.
- (2) The analytical data on all measurable substances

 Please see annex 1 through 12, attached to this document

Remarks:

1. Pb (lead) contained in die bonding solder (item 8 on page 3) and passivation glass (item 7) to be categorized as exempt in RoHS Annex 5 and 7.

Please refer to Annex 13 of this report for the extract of the applicable exemptions of RoHS (EU Directive 2002/95/EC)

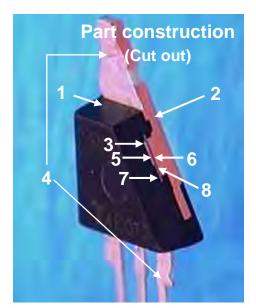
October 12, 2006 Littelfuse, L.P. Page 1

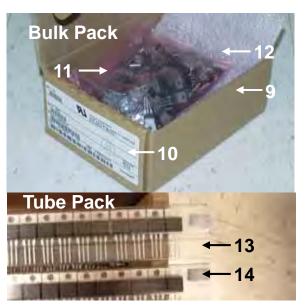


Littelfuse Part Number covered by this report

	Standard (Catalog) Part Number						
C122A	Q4010R4	Q6006R4	Q7025R5	S0308R	S5012R		
C122B	Q4010R5	Q6006R5	Q7025R6	S0312R	S5025R		
C122C	Q4010RH5	Q6006RH4	Q7025R9	S0316R	S6008R		
C122D	Q4012R5	Q6008R4	Q8006R5	S0325R	S6010R		
C122E	Q4012RH5	Q6008R5	Q8006RH4	S0508R	S6012R		
C122F	Q4015R5	Q6008RH4	Q8008R5	S0510R	S6016R		
C122M	Q4015R6	Q6010R4	Q8008RH4	S0512R	S6025R		
C122A	Q4015R9	Q6010R5	Q8010R4	S0516R	S6040R		
	Q4016RH3	Q6010RH5	Q8010R5	S0525R	S6055R		
	Q4016RH4	Q6012R5	Q8010RH5	S0540R	S8008R		
Q2006R4	Q4016RH6	Q6012RH5	Q8012R5	S0555R	S8010R		
Q2006R5	Q4025R5	Q6015R5	Q8012RH5	S1008R	S8012R		
Q2006RH4	Q4025R6	Q6015R6	Q8015R5	S1010R	S8016R		
Q2008R4	Q4025R9	Q6015R9	Q8015R6	S1012R	S8025R		
Q2008R5	Q5006R4	Q6016RH3	Q8015R9	S1016R	S8040R		
Q2008RH4	Q5006R5	Q6016RH4	Q8016RH3	S1025R	S8055R		
Q2010R4	Q5006RH4	Q6016RH6	Q8016RH4	S1040R	SK008R		
Q2010R5	Q5008R4	Q6025R5	Q8016RH6	S1055R	SK010R		
Q2010RH5	Q5008R5	Q6025R6	Q8025R5	S2008R	SK012R		
Q2012R5	Q5008RH4	Q6025R9	Q8025R6	S2010R	SK016R		
Q2012RH5	Q5010R4	Q6025RX	Q8025R9	S2012R	SK025R		
Q2015R5	Q5010R5	Q6035RH5	QK006R5	S2016R	SK040R		
Q2015R9	Q5010RH5	Q7006R5	QK006RH4	S2025R	SK055R		
Q2016RH3	Q5012R5	Q7006RH4	QK008R5	S2040R			
Q2016RH4	Q5012RH5	Q7008R5	QK008RH4	S2055R			
Q2016RH6	Q5015R5	Q7008RH4	QK010R4	S2800A			
Q2025R5	Q5015R6	Q7010R5	QK010R5	S2800C			
Q2025R6	Q5015RX	Q7010RH5	QK010RH5	S2800E			
Q2025R9	Q5016RH3	Q7012R5	QK012RH5	S2800F	SPECIAL DEVICE P/N		
Q2035RH5	Q5016RH4	Q7012RH5	QK015R5	S4008R	Any Special P/N that has		
Q4006R4	Q5016RH6	Q7015R5	QK016RH3	S4010R	base standard P/N listed in		
Q4006R5	Q5025R5	Q7015R6	QK016RH4	S4012R	this table		
Q4006RH4	Q5025R6	Q7015R9	QK016RH6	S4016R	OPTIONAL SUFFIX		
Q4008R4	Q5025R9	Q7016RH3	QK025R5	S4025R	Any Part Number listed		
Q4008R5	Q5025RX	Q7016RH4	QK025R6	S4040R	here may be followed by		
Q4008RH4		Q7016RH6		S4055R	suffix for packing options, such as "RP" or lead form options such as "LB" or "51".		







Material Used (where used)

Table 1: Homogeneous Material Used

#	Description	Name of Material	Туре	Analysis data
1	Molding compound	epoxy resin	plastic	annex 1
2	Lead frame	copper alloy	metal	annex 2
3	Preform	copper alloy	metal	annex 3 TO-220 uses the same copper material as DO-214. ICP report is from DO-214 Material.
4	Matte-Tin plating	Tin	metal	annex 4, tested as plating cathode
5	Silicon die	silicon	metal	appey 5 tested as Nickel plated wafer
6	Nickel electrode	nickel	metal	annex 5, tested as Nickel-plated wafer.
7	Passivation glass	glass	glass	annex 6. Pb in this glass is exempted by RoHS Annex 7.
8	Die bonding solder	solder	metal	annex 7. Pb in this solder is exempted by RoHS Annex 5.
9	Cardboard Box	cardboard	paper	annex 8, tested with label TO-220 uses the same paper material as DO-214. ICP report is from DO-214 Material.
10	Product Label	paper	paper	annex 8, tested with box
11	Poly Tubing Bag	polyethylene	plastic	annex 9
12	Packing Foam	polystyrene	plastic	annex 10
13	Packing Tube	PVC	plastic	annex 11
14	End Plug	rubber	rubber	annex 12



Table 2: RoHS-regulated substance in raw materials

Components		Analysis Result						
	Weight (typical)	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB	PBDE	
As Component Total (Values of S8055R*1, as representative of Thyristor, TO-220R Package)	2,180mg	< 2ppm	< 2ppm	< 2ppm	<10 ppm* ² (0.95% ^{*3})	< 5 ppm	< 5 ppm	
Epoxy Resin compound (mixture of phenolix resin, epoxy resin, filler and Sb ₂ O ₃ as fire retardant) See Annex 1 for the detail.	612mg	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	<5 ppm	
Lead frame / Preform (Copper Alloy, C14420 / CDA110) See Annex 2 & 3 for the detail.	1,490mg	< 2ppm	< 2ppm	< 2ppm	< 2ppm			
Outside lead finish (Matte-Tin plated, Sn 100%) See Annex 4 for the detail.	40mg	< 1ppm	< 1ppm	< 0.5ppm	58ppm* ⁴			
Silicon Die (Silicon + Ni electrode) See Annex 5 for the detail.	18mg	< 2ppm	< 2ppm	< 2ppm	52ppm* ⁴			
Passivation Glass See Annex 6 for the detail.	0.7mg	< 2ppm	< 2ppm	< 2ppm	39% ^{*5}			
Die Bonding Solder (Pb/Sn=90/10) See Annex 7 for the detail.	22mg	< 2ppm	< 2ppm	< 2ppm	90% * ⁶			
Packing Materials (Box, Reel, Tapes, Plastic bag) See Annex 8-13 for the detail		< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	< 5ppm	

- *1 Other products may contain equal or less amount of Pb as S8055R value shown here, but not more than the value shown here.
- *2 Less than 10ppm Pb content overall, <u>excluding</u> Pb from the die bonding solder and the passivation glass on the silicon die.
- *3 0.95wt% or 21mg of Pb (lead) content overall, including the RoHS-exempted use of Pb
- *4 Pb (lead) contained in outside finish and Nickel-plated silicon wafer is <u>not</u> exempted from restriction by RoHS, but considered as process contamination. Littelfuse does not add Pb (lead) intentionally.
- *5 Pb (lead) contained in passivation glass is exempted from restriction by RoHS Annex 5.
- *6 Pb (lead) contained in die bonding solder is exempted from restriction by RoHS Annex 7, first item.

Please refer to Annex 13 of this report for the applicable exemptions of RoHS (EU Directive 2002/95/EC)

October 12, 2006 Littelfuse, L.P. Page 4



Annex 1: Analysis Result of Molding Compound (Page 1 of 4)



Test Report

Report No : CE/2006/91634 Date : 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 1 of 4

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

Sample Description

MOLDING COMPOUND LS-16S

Style/Item No Manufacturer/Supplier :

1003010-16 1

Name

LITTELFUSE INC.

Country of Destination : TAIWAN Country of Origin : USA

Sample Received : 2006/09/06

Testing Period 2006/09/06 TO 2006/09/13

Test Requested

With reference to the RoHS Directive 2002/95/EC, and its

amendment directives.

Test Method

- (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-
 - AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.
- (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.
- (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.
- (5) With reference to US EPA 3540C, Analysis was performed by GC/MS and screening via US EPA 3550C with HPLC/DAD/MS.

Test Result(s)

- Please see the next page(s) -

gned for and on behalf of SGS TAIWAN LTD.

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Annex 1: Analysis Result of Molding Compound (Page 2 of 4)



Test Report

Report No: CE/2006/91634 Date: 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 4

Test Result(s)

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

	Method	Result	
Test Item (s):	(Refer to)	No.1	MDL
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	8.0	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
Total PBBs		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	1	n.d.	5
Total PBBEs(PBDEs)	(5)	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
Octobromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether] [n.d.	5
Total of Mono to Nona(Note 5)		n.d.	-

Test Part Description

PART NAME NO.1 | BLACK LUMP

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October 12, 2006 Littelfuse, L.P. Annex 1-2



Annex 1: Analysis Result of Molding Compound (Page 3 of 4)



Test Report

Report No: CE/2006/91634 Date: 2006/09/13

Page: 3 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

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Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

- (2) n.d. = N.D. = ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sample was totally digested for Pb, Cd, Hg
- (5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.
- (6) "-" = Not Regulated

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Annex 1: Analysis Result of Molding Compound (Page 4 of 4)



Test Report

Report No: CE/2006/91634 Date: 2006/09/13

LITTELFUSE INC.

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Annex 2: Analysis Result of Lead frame (Page 1 of 3)



Test Report

Report No : CE/2006/91766 Date : 2006/09/12

Page: 1 of 3 TO SHARE THE STATE OF THE STATE

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

Sample Description

LEAD FRAME

Part No.

7001004-05

Manufacturer/Supplier

: LITTELFUSE INC.

Name

Country of Destination Country of Origin

: TAIWAN

USA : 2006/9/6 2

Sample Received Testing Period

: 2006/9/6 TO 2006/09/12

Test Requested

- With reference to the RoHS Directive 2002/95/EC, and its
 - amendment directives.

Test Method

- (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-
- (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.
- (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.
- (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by

UV/Vis Spectrometry.

Test Result(s)

: Please see the next page(s) -

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Annex 2: Analysis Result of Lead frame (Page 2 of 3)



Test Report

Report No : CE/2006/91766 Date : 2006/09/12

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Test Result(s)

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

w	Method	Result		
Test Item (s):	(Refer to)	No.1	MDL	
Cadmium (Cd)	(1)	n.d.	2	
Lead (Pb)	(2)	n.d.	2	
Mercury (Hg)	(3)	n.d.	2	
Chromium VI (Cr+6)	(4)	n.d.	2	

Test Part Description

PART NAME NO.1

: COPPER COLORED METAL

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

- (2) n.d. = N.D. = ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sample was totally digested for Pb, Cd, Hg

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Annex 2-2

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October 12, 2006 Littelfuse, L.P.



Annex 2: Analysis Result of Lead frame (Page 3 of 3)

SGS

Test Report

Report No : CE/2006/91766 Date : 2006/09/12

LITTELFUSE INC.

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40 136-1 Wu Kung Road, Wuku Industrial Zone, Taiper county, Takeined B. 21 220 (2010) 18 (1996), 31 2 200, 2237. https://doi.org/10.1001/j.



Annex 3: Analysis Result of Preform (Page 1 of 3)



Test Report

Report No : CE/2006/91765 Date : 2006/09/12

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Page: 1 of 3

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

Sample Description

PREFORM

Part No.

7101814-00

Manufacturer/Supplier

: LITTELFUSE INC.

Name

: TAIWAN Country of Destination Country of Origin USA : Sample Received 1

Testing Period

2006/9/6 : 2006/9/6 TO 2006/09/12

Test Requested

- With reference to the RoHS Directive 2002/95/EC, and its
 - amendment directives.

Test Method

- (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-
 - (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.
 - (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.
 - (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.

Test Result(s)

: - Please see the next page(s) -

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Annex 3-1



Annex 3: Analysis Result of Preform (Page 2 of 3)



Test Report

Report No : CE/2006/91765 Date : 2006/09/12

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Test Result(s)

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

	Method	Result		
Test Item (s):	(Refer to)	No.1	MDL	
Cadmium (Cd)	(1)	n.d.	2	
Lead (Pb)	(2)	n.d.	2	
Mercury (Hg)	(3)	n.d.	2	
Chromium VI (Cr+6)	(4)	n.d.	2	

Test Part Description

PART NAME NO.1

; COPPER COLORED METAL

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

- (2) n.d. = N.D. = ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sample was totally digested for Pb, Cd, Hg

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October 12, 2006 Littelfuse, L.P. Annex 3-2



Annex 3: Analysis Result of Preform (Page 3 of 3)



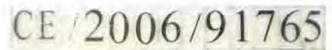
Test Report

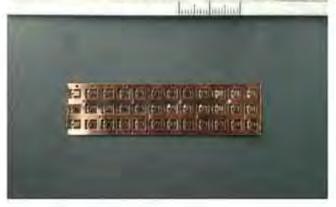
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LITTELFUSE INC.

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** End of Report **

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Annex 4: Analysis Result of Tin plating cathode (page 1 of 3)



Test Report

Report No: CE/2006/96119 Date: 2006/09/29

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 1 of 3

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

Sample Description

Style/Item No

TIN PLATING CATHODE BALL TIN PLATING CATHODE BALL

Manufacturer/Supplier

: LITTELFUSE INC.

Name

Country of Destination TAIWAN Country of Origin USA Sample Received 2006/09/22 1

2006/09/22 TO 2006/09/29 Testing Period

Test Requested

With reference to the RoHS Directive 2002/95/EC, and its

amendment directives.

Test Method

(1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-

(2) With reference to US EPA Method 3050B for Lead

Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury

Content. Analysis was performed by ICP-AES.

(4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by

UV/Vis Spectrometry.

Test Result(s) - Please see the next page(s) -

signed for and on behalf of

SGS TAIWAN LTD.

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Annex 4: Analysis Result of Tin plating cathode (page 2 of 3)



Test Report

Report No: CE/2006/96119 Date: 2006/09/29

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Test Result(s)

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

	Method	Result		
Test Item (s):	(Refer to)	No.1	MDL	
Cadmium (Cd)	(1)	n.d.	2	
Lead (Pb)	(2)	58.2	2	
Mercury (Hg)	(3)	n.d.	2	
Chromium VI (Cr+6)	(4)	n.d.	2	

Test Part Description

PART NAME NO.1

: SILVER COLORED TIN BALL

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

- (2) n.d. = N.D. = ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sample was totally digested for Pb, Cd, Hg

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October 12, 2006 Littelfuse, L.P. Annex 4-2



Annex 4: Analysis Result of Tin plating cathode (page 3 of 3)



Test Report

Report No : CE/2006/96119 Date : 2006/09/29

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 3 of 3



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Annex 5: Analysis Result of Ni-plated Wafer (Page 1 of 3)



Test Report

Report No : CE/2006/91815A Date : 2006/09/14

LITTELFUSE INC.

800 EAST NORTHWEST HIGHWAY DES PLAINES.

IL 60016

Page: 1 of 3

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

Sample Description

SILICON WAFER ELECTRODE

Style/Item No

7101505xx

Manufacturer/Supplier : LITTELFUSE INC.

Name

Country of Destination Country of Origin

: TAIWAN

Sample Received

USA : 2006/09/07 1

Testing Period

: 2006/09/07 TO 2006/09/14

Test Requested

With reference to the RoHS Directive 2002/95/EC, and its

amendment directives.

Test Method

(1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-

(2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.

(3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.

(4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by

UV/Vis Spectrometry.

Test Result(s)

Please see the next page(s) -

gned for and on behalf of SGS TAIWAN LTD.

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Annex 5: Analysis Result of Ni-plated Wafer (Page 2 of 3)



Test Report

Report No: CE/2006/91815A Date: 2006/09/14

LITTELFUSE INC.

800 EAST NORTHWEST HIGHWAY DES PLAINES,

IL 60016

Page: 2 of 3

Test Result(s)

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

	Method	Result		
Test Item (s):	(Refer to)	No.1	MDL	
Cadmium (Cd)	(1)	n.d.	2	
Lead (Pb)	(2)	52.4	2	
Mercury (Hg)	(3)	n.d.	2	
Chromium VI (Cr+6)	(4)	n.d.	2	

Test Part Description

PART NAME NO.1

SILICON WAFER WITH NICKEL ELECTRODE

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

- (2) n.d. = N.D. = ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sample was totally digested for Pb, Cd, Hg
- (5) The report number of CE/2006/91815 is invalid.

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October 12, 2006 Littelfuse, L.P. Annex 5-2



Annex 5: Analysis Result of Ni-plated Wafer (Page 3 of 3)



Test Report

Report No: CE/2006/91815A Date: 2006/09/14 LITTELFUSE INC.

800 EAST NORTHWEST HIGHWAY DES PLAINES, IL 60016

Page: 3 of 3





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Annex 6: Analysis Result of Passivation Glass (Page 1 of 4)



Test Report

LETTELFUSE, INC.

Report No. : CE/2006/34224

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

: 2006/03/29

USA

Page : 1 of 4

The following merchandise was (were) submitted and identified by the client as:

Type of Product

: PASSIVATION GLASS POWDER

Style/Item No Manufacturer/Supplier

Country of Destination

: 110233600 : LITTELFUSE INC.

Name

: TAIWAN : USA

Country of Origin Sample Received

2006/03/14

Testing Date

2006/03/14 TO 2006/03/21 & 2006/03/26 TO 2006/03/29

Test Result : Please see the next page -

Daniel Yeh, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.

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Total College

NO. 136-1, Wo Kung Road, Wulfu Industrial Ziline, Teles county, Terrer



Annex 6: Analysis Result of Passivation Glass (Page 2 of 4)



Test Report

LETTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34224

Date : 2006/03/29

Page : 2 of 4

Test Result

PART NAME NO.1

WHITE POWDER

	- 4	44.7		Result
Test Item (s):	Unit	Method	MDL	No.1
Monobromobiphenyl	%		0.0005	N.D.
Dibromobiphenyl	96	1 1	0.0005	N.D.
Tribromobiphenyl	%	Land Address	0.0005	N.D.
Tetrabromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD.	0.0005	N.D.
Pentabromobiphenyl	96		0.0005	N.D.
Hexabromobiphenyl	%		0.0005	N.D.
Heptabromobiphenyl	%	LC/MS or GC/MS.	0.0005	N.D.
Octabromobiphenyl	%	(prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
Nonabromobiphenyl	%		0.0005	N.D.
Decabromobiphenyl	96		0.0005	N.D.
Total PBBs (Polybrominated biphenyls)/Sum of above	%		-	N.D.
Monobromobiphenyl ether	%		0.0005	N.D.
Dibromobiphenyl ether	96		0.0005	N.D.
Tribromobiphenyl ether	%	1 1	0.0005	N.D.
Tetrabromobiphenyl ether	%	7 1	0.0005	N.D.
Pentabromobiphenyl ether	%	With reference to	0.0005	N.D.
Hexabromobiphenyl ether	96	USEPA3540C or	0.0005	N.D.
Heptabromobiphenyl ether	%	USEPA3550C, Analysis was	0.0005	N.D.
Octabromobiphenyl ether	%	performed by HPLC/DAD,	0.0005	N.D.
Nonabromobiphenyl ether	%	LC/MS or GC/MS.	0.0005	N.D.
Decabromobiphenyl ether	96	(prohibited by 2002/95/EC (RoHS), 83/264/EEC, and	0,0005	N.D.
Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above	%	76/769/EEC)		N.D.
Total of Mono to Nona- brominated biphenyl ether. (Note 4)	%		×	N,D,

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NO. 136-1, Wu Kung Road, Wulfu Indoptral Ziline, Telepis county, Terrein



Annex 6: Analysis Result of Passivation Glass (Page 3 of 4)



Test Report

LETTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34224

: 2006/03/29

Page :3 of 4

m	77.74		were	Result
Test Item (s):	Unit	Method	MDL	No.1
Chromium VI (Cr+6)	ppm	UV-VIS(US EPA 7196A) after reference to US EPA 3060A.	2	N.D.
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	N.D.
Lead (Pb)	ррт	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	385475.0

- NOTE: (1) N.D. = Not detected (<MDL)
 - (2) ppm = mg/kg
 - (3) MDL = Method Detection Limit
 - (4) Decabromodiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified under document 2005/717/EC.
 - (5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.
 - (6) " " = Not Regulation

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Annex 6-3 October 12, 2006 Littelfuse, L.P.



Annex 6: Analysis Result of Passivation Glass (Page 4 of 4)



Test Report

LETTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34224

: 2006/03/29

Page : 4 of 4



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Annex 7: Analysis Result of Die Bonding Solder (Page 1 of 3)



Test Report

Report No : CE/2006/91816 Date : 2006/09/14

LITTELFUSE INC.

800 EAST NORTHWEST HIGHWAY DES PLAINES.

IL 60016

Page: 1 of 3

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

Sample Description

: SOLDER PASTE (HIGH Pb)

Style/Item No

4102844-06

Name

Manufacturer/Supplier : LITTELFUSE INC.

Country of Destination Country of Origin

: TAIWAN USA :

Sample Received

2006/09/07 1

Testing Period

: 2006/09/07 TO 2006/09/14

Test Requested

With reference to the RoHS Directive 2002/95/EC, and its

amendment directives.

Test Method

(1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-

(2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.

(3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.

(4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by

UV/Vis Spectrometry.

Test Result(s)

Please see the next page(s) -

Operation Manager ned for and on behalf of

SGS TAIWAN LTD.

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Littelfuse, L.P.



Annex 7: Analysis Result of Die Bonding Solder (Page 2 of 3)



Test Report

Report No: CE/2006/91816 Date: 2006/09/14

LITTELFUSE INC.

800 EAST NORTHWEST HIGHWAY DES PLAINES,

IL 60016

Page: 2 of 3

Test Result(s)

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

	Method	Result	*****	
Test Item (s):	(Refer to)	No.1	MDL	
Cadmium (Cd)	(1)	n.d.	2	
Lead (Pb)	(2)	821635.5	2	
Mercury (Hg)	(3)	n.d.	2	
Chromium VI (Cr+6)	(4)	n.d.	2	

Test Part Description

PART NAME NO.1

: DARK-GRAY SOLDER PASTE

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

- (2) n.d. = N.D. = ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sample was totally digested for Pb, Cd, Hg

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(C. 136-1, Wu Sung Froad, Wuku Industrial Zone, Tapel county Takeson (WSC 2) 2398/939 (1996) 31-2398-2337. https://doi.org/10.1001/96.

October 12, 2006 Littelfuse, L.P. Annex 7-2



Annex 7: Analysis Result of Die Bonding Solder (Page 3 of 3)



Test Report

Report No: CE/2006/91816 Date: 2006/09/14 LITTELFUSE INC.

800 EAST NORTHWEST HIGHWAY DES PLAINES, IL 60016 Page: 3 of 3



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Annex 8: Analysis Result of Packing Box (Page 1 of 4)



Test Report

Report No : CE/2006/91636 Date : 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 1 of 4

THE REPORT OF THE PARTY OF THE PARTY.

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

Sample Description Style/Item No : REEL BOX : 110233200

Manufacturer/Supplier :

LITTELFUSE INC.

Name

Country of Destination : TAIWAN Country of Origin : USA

Sample Received : 2006/09/06

Testing Period : 2006/09/06 TO 2006/09/13

Test Requested

: With reference to the RoHS Directive 2002/95/EC, and its

amendment directives.

Test Method

- With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.
 - (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.
 - (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.
- (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.
- (5) With reference to US EPA 3540C, Analysis was performed by GC/MS and screening via US EPA 3550C with HPLC/DAD/MS.

Test Result(s) : Please see the next page(s) -

Daniel Yen, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.

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October 12, 2006 Littelfuse, L.P. Annex 8-1



Annex 8: Analysis Result of Packing Box (Page 2 of 4)



Test Report

Report No: CE/2006/91636 Date: 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 4

THE RESERVE OF THE PARTY OF THE

Test Result(s)

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

Test Item (s):	Method (Refer to)	Result No.1	MDL
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
Total 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
Total PBBEs(PBDEs)		n.d.	14
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
Total of Mono to Nona(Note 5)		n.d.	-

Test Part Description

PART NAME NO.1 BROWN CARTON WITH BLACK PRINTING

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Annex 8-2 October 12, 2006 Littelfuse, L.P.



Annex 8: Analysis Result of Packing Box (Page 3 of 4)



Test Report

Report No : CE/2006/91636 Date : 2006/09/13

Page: 3 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

(2) n.d. = N.D. = ND = Not Detected

(3) MDL = Method Detection Limit

(4) Sample was totally digested for Pb, Cd, Hg

(5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.

(6) "-" = Not Regulated

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RD: 136-1. Wu Sung Froad, WuRu Industrial Zone, Tages inpunty. Takest

October 12, 2006 Littelfuse, L.P. Annex 8-3



Annex 8: Analysis Result of Packing Box (Page 4 of 4)



Test Report

Report No: CE/2006/91636 Date: 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 4 of 4



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Annex 9: Analysis Result of Poly Tubing Bag (Page 1 of 4)



Test Report

Report No : CE/2006/91635 Date : 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 1 of 4

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

Sample Description : PKOLY TUBING BAG

Style/Item No : 110428901

Manufacturer/Supplier :

LITTELFUSE INC.

Name

Country of Destination : TAIWAN Country of Origin : USA

Sample Received : 2006/09/06

Testing Period : 2006/09/06 TO 2006/09/13

Test Requested : With reference to the RoHS Directive 2002/95/EC, and its

amendment directives.

Test Method : (1) With reference to BS EN 1122:2001, Method B for Cadmium Content, Analysis was performed by ICP

Cadmium Content. Analysis was performed by ICP-

AES.

(2) With reference to US EPA Method 3050B for Lead Content, Analysis was performed by ICP-AES.

(3) With reference to US EPA Method 3052 for Mercury

Content. Analysis was performed by ICP-AES.

(4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium, Analysis was performed by

UV/Vis Spectrometry.

(5) With reference to US EPA 3540C, Analysis was

performed by GC/MS and screening via US EPA 3550C

Annex 9-1

with HPLC/DAD/MS.

Test Result(s) : Please see the next page(s) -

Daniel Yen, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.

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October 12, 2006 Littelfuse, L.P.



Annex 9: Analysis Result of Poly Tubing Bag (Page 2 of 4)



Test Report

Report No: CE/2006/91635 Date: 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 4

Test Result(s)

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

Test Item (s):	Method (Refer to)	Result No.1	MDL
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
Total 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
Total PBBEs(PBDEs)		n.d.	4
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
Total of Mono to Nona(Note 5)		n.d.	-

Test Part Description

PART NAME NO.1 1 TRANSPARENT PINK PLASTIC BAG

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Annex 9-2 October 12, 2006 Littelfuse, L.P.



Annex 9: ICP/UV/GC Analysis Result of Poly Tubing Bag (Page 3 of 4)



Test Report

Report No: CE/2006/91636 Date: 2006/09/13

Page: 3 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Note: (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

(2) n.d. = N.D. = ND = Not Detected

(3) MDL = Method Detection Limit

(4) Sample was totally digested for Pb, Cd, Hg

(5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.

(6) "-" = Not Regulated

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NO 135-1 Wu Yung Froad, WuRu Industrial Zone, Taiper county, Takein

October 12, 2006 Littelfuse, L.P. Annex 9-3



Annex 9: Analysis Result of Poly Tubing Bag (Page 4 of 4)



Test Report

Report No : CE/2006/91635 Date : 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 4 of 4



** End of Report **

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Annex 10: Analysis Result of Packing Foam (Page 1 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34166

Date : 2006/03/21

Page :1 of4

The following merchandise was (were) submitted and identified by the client as:

Type of Product : PACKING FOAM (PINK)

Style/Item No : 110202000 Manufacturer/Supplier : LITTELFUSE INC.

Name

Country of Destination : TAIWAN
Country of Origin : USA
Sample Received : 2006/03/14

Testing Date : 2006/03/14 TO 2006/03/21

Test Result : Please see the next page -

Deniel Yeh, M.R. Operation Manager Signed for and on behalf of SGS TAIWAN LTD.

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Annex 10: Analysis Result of Packing Foam (Page 2 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34166

Date : 2006/03/21

Page : 2 of 4

Test Result

PART NAME NO.1 : PINK FOAM

Took I toon Job	*****	Unit Method	MDL	Result	400
Test Item (s):	Unit	Method	MDL	No.1	Spec.
Monobromobiphenyl	ppm		5	N.D.	-
Dibromobiphenyl	ppm		5	N.D.	- 14
Tribromobiphenyl	ppm	1	5	N.D.	- 34
Tetrabromobiphenyl	ppm	With reference to USEPA3540C or	5	N.D.	(e)
Pentabromobiphenyl	ppm	USEPA3540C or USEPA3550C. Analysis was	5	N.D.	-
Hexabromobiphenyl	ppm	performed by HPLC/DAD,	5	N.D.	100
Heptabromobiphenyl	ppm	LC/MS or GC/MS.	5	N.D.	- 38
Octabromobiphenyl	ppm	(prohibited by 2002/95/EC	5	N.D.	
Nonabromobiphenyl	ppm	(RoHS), 83/264/EEC, and	5	N.D.	
Decabromobiphenyl	ppm	76/769/EEC)	5	N.D.	
Total PBBs (Polybrominated biphenyls)/Sum of above	ppm		- 8	N.D.	× ×
Monobromobiphenyl ether	ppm		5	N.D.	-
Dibromobiphenyl ether	ppm		5	N.D.	-
Tribromobiphenyl ether	ppm		5	N.D.	
Tetrabromobiphenyl ether	ppm		5	N.D.	32.1
Pentabromobiphenyl ether	ppm	With reference to	5	N.D.	100
Hexabromobiphenyl ether	ppm	USEPA3540C or	5	N.D.	-
Heptabromobiphenyl ether	ppm	USEPA3550C. Analysis was	5	N.D.	× .
Octabromobiphenyl ether	ppm	performed by HPLC/DAD.	5	N.D.	-
Nonabromobiphenyl ether	ppm	LC/MS or GC/MS.	5	N.D.	100
Decabromobiphenyl ether	ppm	(prohibited by 2002/95/EC	5	N.D.	14
Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above	ppm	(RoHS), 83/264/EEC, and -76/769/EEC)		N.D.	100
Total of Mono to Nona- brominated biphenyl ether. (Note 4)	ppm			N.D.	

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Annex 10: Analysis Result of Packing Foam (Page 3 of 4)



Test Report

LITTELFUSE, INC.

Report No. : CE/2006/34166

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

: 2006/03/21

USA

Page :3 of 4

Test Item (s):			MDL	Result	(2000)
	Unit	Method		No.1	Spec
94/62/EC (Heavy metal content)					
Chromium VI (Cr+6)	ppm	UV-VIS(US EPA 7196A) after reference to US EPA 3060A.	2	N.D.	×
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.	10
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.	ĭ
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.	×
Total Lead+Cadmium+Mercury+ Chromium VI	ppm	Total Lead+Cadmium+Mercury+ Chromium VI (94/62/EC)	6	N.D.	100

NOTE: (1) N.D. = Not detected (<MDL)

- (2) ppm = mg/kg
- (3) MDL = Method Detection Limit
- (4) Decabromodiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified under document 2005/717/EC.
- (5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.
- (6) " " = Not Regulation

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Annex 10-3 October 12, 2006 Littelfuse, L.P.



Annex 10: Analysis Result of Packing Foam (Page 4 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34166

: 2006/03/21

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Annex 11: Analysis Result of Packing Tube (page 1 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Report No. : CE/2006/34186

Date : 2006/03/21

Page :1 of4

The following merchandise was (were) submitted and identified by the client as:

Type of Product

: LOADING TUBE, TO-220

Sample Received

: 2006/03/14

Testing Date

2006/03/14 TO 2006/03/21

Test Result

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Please see the next page -

Denter Yeh, M.R., Operation Manager
Signed for and on behalf of

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Annex 11: Analysis Result of Packing Tube (page 2 of 4)



Test Report

LITTELFUSE, INC. 800 E. NORTHWEST HWY. DES PLAINES, IL 60016 Report No. : CE/2006/34186

Date : 2006/03/21

Page : 2 of 4

Test Result

PART NAME NO.1

TRANSPARENT-GRAY PLASTIC

Took I toon (a):	*****	Unit Method	****	Result	
Test Item (s):	Unit	Method	MDL	No.1	Spec.
Monobromobiphenyl	ppm		5	N.D.	-
Dibromobiphenyl	ppm		5	N.D.	
Tribromobiphenyl	ppm		5	N.D.	- ×
Tetrabromobiphenyl	ppm	With reference to USEPA3540C or	5	N.D.	(e)
Pentabromobiphenyl	ppm	USEPA3540C or USEPA3550C, Analysis was	5	N.D.	-
Hexabromobiphenyl	ppm	performed by HPLC/DAD,	5	N.D.	- 10
Heptabromobiphenyl	ppm	LC/MS or GC/MS.	5	N.D.	- 38
Octabromobiphenyl	ppm	(prohibited by 2002/95/EC	5	N.D.	
Nonabromobiphenyl	ppm	(RoHS), 83/264/EEC, and	5	N.D.	
Decabromobiphenyl	ppm	76/769/EEC)	5	N.D.	
Total PBBs (Polybrominated biphenyls)/Sum of above	ppm		- 8	N.D.	× ×
Monobromobiphenyl ether	ppm		5	N.D.	-
Dibromobiphenyl ether	ppm		5	N.D.	-
Tribromobiphenyl ether	ppm		5	N.D.	
Tetrabromobiphenyl ether	ppm		5	N.D.	121
Pentabromobiphenyl ether	ppm	With reference to	5	N.D.	198
Hexabromobiphenyl ether	ppm	USEPA3540C or	5	N.D.	-
Heptabromobiphenyl ether	ppm	USEPA3550C. Analysis was	5	N.D.	× .
Octabromobiphenyl ether	ppm	performed by HPLC/DAD.	5	N.D.	-
Nonabromobiphenyl ether	ppm	LC/MS or GC/MS.	5	N.D.	=
Decabromobiphenyl ether	ppm	(prohibited by 2002/95/EC (RoHS), 83/264/EEC, and	5	N.D.	14
Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above	ppm	76/769/EEC)		N.D.	100
Total of Mono to Nona- brominated biphenyl ether. (Note 4)	ppm			N.D.	

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Annex 11: Analysis Result of Packing Tube (page 3 of 4)



Test Report

LITTELFUSE, INC.

Report No. : CE/2006/34186

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

: 2006/03/21

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PASS

Test Item (s):	Unit	Method	MDL	Result	Spec.
			MDL	No.1	
94/62/EC (Heavy metal content)					
Chromium VI (Cr+6)	ppm	UV-VIS(US EPA 7196A) after reference to US EPA 3060A.	2	N.D.	Ī
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.	100
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.	×
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.	×
Total Lead+Cadmium+Mercury+ Chromium VI	ppm	Total Lead+Cadmium+Mercury+ Chromium VI (94/62/EC)		N.D.	100

NOTE: (1) N.D. = Not detected (<MDL)

- (2) ppm = mg/kg
- (3) MDL = Method Detection Limit
- (4) Decabromodiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified under document 2005/717/EC.
- (5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.
- (6) " " = Not Regulation

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Annex 11: Analysis Result of Packing Tube (page 4 of 4)



Test Report

LITTELFUSE, INC. 800 E. NORTHWEST HWY. DES PLAINES, IL 60016 Report No. : CE/2006/34186

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Annex 12: Analysis Result of End Plug (Page 1 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34172

Date : 2006/03/21

Page :1 of4

The following merchandise was (were) submitted and identified by the client as:

Type of Product : END PLUG, TO-220 TUBE

Style/Item No : 410245000 Manufacturer/Supplier : LITTELFUSE INC.

Name

Country of Destination : TAIWAN
Country of Origin : USA
Sample Received : 2006/03/14

Testing Date : 2006/03/14 TO 2006/03/21

Test Result : Please see the next page -

Daniel Yeh, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.

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Annex 12: Analysis Result of End Plug (Page 2 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

USA

Report No. : CE/2006/34172

Date : 2006/03/21

Page : 2 of 4

Test Result

PART NAME NO.1

GRAY RUBBER

m	****	Unit Method	MDL	Result
Test Item (s):	Unit	Method	MDL	No.1
Monobromobiphenyl	ppm		5	N.D.
Dibromobiphenyl	ppm		5	N.D.
Tribromobiphenyl	ppm		5	N.D.
Tetrabromobiphenyl	ppm	With reference to	5	N.D.
Pentabromobiphenyl	ppm	USEPA3540C or USEPA3550C. Analysis was	5	N.D.
Hexabromobiphenyl	ppm	performed by HPLC/DAD.	5	N.D.
Heptabromobiphenyl	ppm	LC/MS or GC/MS.	5	N.D.
Octabromobiphenyl	ppm	(prohibited by 2002/95/EC	5	N.D.
Nonabromobiphenyl	ppm	(RoHS), 83/264/EEC, and	5	N.D.
Decabromobiphenyl	ppm	76/769/EEC)	5	N.D.
Total PBBs (Polybrominated biphenyls)/Sum of above	ppm	1 1	-	N.D.
Monobromobiphenyl ether	ppm		5	N.D.
Dibromobiphenyl ether	ppm		5	N.D.
Tribromobiphenyl ether	ppm		5	N.D.
Tetrabromobiphenyl ether	ppm	1 [5	N.D.
Pentabromobiphenyl ether	ppm	With reference to	5	N.D.
Hexabromobiphenyl ether	ppm	USEPA3540C or	5	N.D.
Heptabromobiphenyl ether	ppm	USEPA3550C. Analysis was	5	N.D.
Octabromobiphenyl ether	ppm	performed by HPLC/DAD,	5	N.D.
Nonabromobiphenyl ether	ppm	LC/MS or GC/MS.	5	N.D.
Decabromobiphenyl ether	ppm	(prohibited by 2002/95/EC - (RoHS), 83/264/EEC, and	5	N.D.
Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above	ppm	76/769/EEC]		N.D.
Total of Mono to Nona- brominated biphenyl ether. (Note 4)	ppm			N,D,

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NO. 136-1, Wu Kung Road, WuFu Indostrial Jüne, Teiper county, Temen



Annex 12: Analysis Result of End Plug (Page 3 of 4)



Test Report

LITTELFUSE, INC.

Report No. ; CE/2006/34172

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016

: 2006/03/21

USA

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Trant I term (a)	27.14	4.6.4	Neme .	Result	
Test Item (s):	Unit	Method	MDL	No.1	
Chromium VI (Cr+6)	ppm	UV-VIS(US EPA 7196A) after reference to US EPA 3060A.	2	N.D.	
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.	
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	N.D.	
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	N.D.	

- NOTE: (1) N.D. = Not detected (<MDL)
 - (2) ppm = mg/kg
 - (3) MDL = Method Detection Limit
 - (4) Decabromodiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified under document 2005/717/EC.
 - (5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.
 - (6) " " = Not Regulation

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Annex 12-3 October 12, 2006 Littelfuse, L.P.



Annex 12 Analysis Result of Cover Tape (Page 4 of 4)



Test Report

LITTELFUSE, INC.

800 E. NORTHWEST HIGHWAY DES PLAINES, IL 60016 USA Report No. : CE/2006/34172 Date : 2006/03/21

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Annex 13: Applicable RoHS exemptions

