



ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

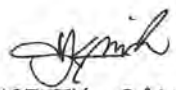
Product Series: GDT

Product #: SL1003 Series

Issue Date: May 27, 2011

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 GDT 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	N/A	Ceramic	3-7
2	N/A	Copper Electrode	8-12
3	N/A	Silver Brazing Ring	13-17
4	N/A	Blue Ink	18-22
5	N/A	Tin Plated Wire	23-27



Test Report

No. LPCI/08870(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 1 of 5

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

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

Sample Description	:	Ceramic
Sample Receiving Date	:	07/04/2011
Testing Period	:	07/04/2011 to 12/04/2011
Date Completed	:	12/04/2011
Date Reported	:	18/05/2011

Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	Please refer to next page(s).
Test Results	:	Please refer to next page(s).
Analysts	:	Ng Mei Kheng & Loi Woan Yee

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/authenticity. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08870(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 2 of 5

Test results:

Test Part Description :

Sample Description : Ceramic

RoHS Directive 2002/95/EC

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium(Cd)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI)	mg/kg	With reference to IEC 62321:2008, and performed by UV-VIS Spectrophotometry	N.D.	2
Sum of PBBs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08870(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 3 of 5

Test Item(s):	Unit	Test Method	Results	MDL
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether ##	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

- Note : (a) mg/kg = ppm ; (0.1wt% = 1000ppm)
 (b) N.D. = Not Detected
 (c) MDL = Method Detection Limit
 (d) ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE is included in the sum of PBDE after 01.07.2008
 (e) - = Not regulated

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/authentication. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08870(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 4 of 5

Test Part Description :

Sample Description : Ceramic



SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/au/verification. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08870(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 5 of 5

1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

2. DETERMINATION OF LEAD CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Wet digestion / Microwave digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.1-0.5g) into digestion vessel
↓
Acid digestion (Microwave)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

4. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321 2008

Sample Preparation
↓
Add colour-developing reagent
↓
Acidify with H₂SO₄
↓
Let stand for 5-10 min
↓
Analyses by UV- Spectrophotometer (540 nm)

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321 2008

Cut sample in small pieces
↓
Weight sample (0.5-4.0g) into extraction thimble
↓
Soxhlet Extraction with Toluene
↓
Filter through 0.45 um membrane filter
↓
Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08871(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 1 of 5

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

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

Sample Description	:	Copper Electrode
Sample Receiving Date	:	07/04/2011
Testing Period	:	07/04/2011 to 12/04/2011
Date Completed	:	12/04/2011
Date Reported	:	18/05/2011

Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	Please refer to next page(s).
Test Results	:	Please refer to next page(s).
Analysts	:	Ng Mei Kheng & Loi Woan Yee

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm).
Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b.
The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08871(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 2 of 5

Test results:

Test Part Description :

Sample Description : Copper Electrode

RoHS Directive 2002/95/EC

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium(Cd)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction (optional) #	---	With reference to IEC 62321:2008, and performed by UV-VIS Spectrophotometry (boiling water extraction only)	Negative	-
Sum of PBBs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08871(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 3 of 5

Test Item(s):	Unit	Test Method	Results	MDL
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether ##	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

Note : (a) mg/kg = ppm ; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) # = Spot-Test:

a. Negative means the absence of Cr(VI) on the tested areas

b. Positive means the presence of Cr(VI) on the tested areas

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed)

Boiling water extraction:

a. Negative means the absence of Cr(VI) on the tested areas

b. Positive means the presence of Cr(VI) on the tested areas;

The detected concentration in 50 mL boiling water extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

(e) - = Not regulated

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08871(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 4 of 5

Test Part Description :

Sample Description : Copper Electrode



SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08871(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 5 of 5

1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

2. DETERMINATION OF LEAD CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Wet digestion / Microwave digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.1-0.5g) into digestion vessel
↓
Acid digestion (Microwave)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

4. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321 2008

Sample Receiving and Registration
↓
Sample Preparation
↓
Spot-test (Qualitative)
↓
Boiling-water-extraction
↓
Analyses by UV- Spectrophotometer
↓
Test Report

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321 2008

Cut sample in small pieces
↓
Weight sample (0.5-4.0g) into extraction thimble
↓
Soxhlet Extraction with Toluene
↓
Filter through 0.45 um membrane filter
↓
Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08883(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 1 of 5

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

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

Sample Description	:	Silver Ring
Sample Receiving Date	:	07/04/2011
Testing Period	:	07/04/2011 to 12/04/2011
Date Completed	:	12/04/2011
Date Reported	:	18/05/2011

Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	Please refer to next page(s).
Test Results	:	Please refer to next page(s).
Analysts	:	Ng Mei Kheng & Loi Woan Yee

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08883(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 2 of 5

Test results:

Test Part Description :

Sample Description : Silver Ring

RoHS Directive 2002/95/EC

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium(Cd)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction (optional) #	---	With reference to IEC 62321:2008, and performed by UV-VIS Spectrophotometry (boiling water extraction only)	Negative	-
Sum of PBBs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08883(B)/11
CTS Ref. CTS/11/1372/LittleFuse

Date : 18/05/2011

Page: 3 of 5

Test Item(s):	Unit	Test Method	Results	MDL
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether ##	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

Note : (a) mg/kg = ppm : (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) # = Spot-Test:

a. Negative means the absence of Cr(VI) on the tested areas

b. Positive means the presence of Cr(VI) on the tested areas

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed)

Boiling water extraction:

a. Negative means the absence of Cr(VI) on the tested areas

b. Positive means the presence of Cr(VI) on the tested areas;

The detected concentration in 50 mL boiling water extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

(e) - = Not regulated

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08883(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 4 of 5

Test Part Description :

Sample Description : Silver Ring



SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08883(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 5 of 5

1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

2. DETERMINATION OF LEAD CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Wet digestion / Microwave digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.1-0.5g) into digestion vessel
↓
Acid digestion (Microwave)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

4. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321 2008

Sample Receiving and Registration
↓
Sample Preparation
↓
Spot-test (Qualitative)
↓
Boiling-water-extraction
↓
Analyses by UV- Spectrophotometer
↓
Test Report

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321 2008

Cut sample in small pieces
↓
Weight sample (0.5-4.0g) into extraction thimble
↓
Soxhlet Extraction with Toluene
↓
Filter through 0.45 um membrane filter
↓
Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgssite.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08867(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 1 of 5

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

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

Sample Description	:	Blue Ink
Sample Receiving Date	:	07/04/2011
Testing Period	:	07/04/2011 to 12/04/2011
Date Completed	:	12/04/2011
Date Reported	:	18/05/2011

Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	Please refer to next page(s).
Test Results	:	Please refer to next page(s).
Analysts	:	Ng Mei Kheng & Loi Woan Yee

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonsite.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08867(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 2 of 5

Test results:

Test Part Description :

Sample Description : Blue Ink

RoHS Directive 2002/95/EC

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium(Cd)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI)	mg/kg	With reference to IEC 62321:2008, and performed by UV-VIS Spectrophotometry	N.D.	2
Sum of PBBs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08867(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 3 of 5

Test Item(s):	Unit	Test Method	Results	MDL
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether ##	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

- Note : (a) mg/kg = ppm ; (0.1wt% = 1000ppm)
 (b) N.D. = Not Detected
 (c) MDL = Method Detection Limit
 (d) ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE is included in the sum of PBDE after 01.07.2008
 (e) - = Not regulated
 (f) Testing based on original basis

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08867(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 4 of 5

Test Part Description :

Sample Description : Blue Ink



SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08867(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 5 of 5

1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Sample Preparation
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

2. DETERMINATION OF LEAD CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Sample Preparation
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Wet digestion / Microwave digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Sample Preparation
↓
Weight sample (0.1-0.5g) into digestion vessel
↓
Acid digestion (Microwave)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

4. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321 2008

Sample Preparation
↓
Add colour-developing reagent
↓
Acidify with H₂SO₄
↓
Let stand for 5-10 min
↓
Analyses by UV- Spectrophotometer (540 nm)

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321 2008

Sample Preparation
↓
Weight sample (0.5-4.0g) into extraction thimble
↓
Soxhlet Extraction with Toluene
↓
Filter through 0.45 µm membrane filter
↓
Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.



Test Report

No. LPCI/08886(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 1 of 5

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

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

Sample Description	:	Tin Plated Wire
Sample Receiving Date	:	07/04/2011
Testing Period	:	07/04/2011 to 12/04/2011
Date Completed	:	12/04/2011
Date Reported	:	18/05/2011

Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	Please refer to next page(s).
Test Results	:	Please refer to next page(s).
Analysts	:	Ng Mei Kheng & Loi Woan Yee

SGS LABORATORY SERVICES (M) SDN. BHD.

CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonline.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08886(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 2 of 5

Test results:

Test Part Description :

Sample Description : Tin Plated Wire

RoHS Directive 2002/95/EC

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium(Cd)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction (optional) #	---	With reference to IEC 62321:2008, and performed by UV-VIS Spectrophotometry (boiling water extraction only)	Negative	-
Sum of PBBs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.html) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.html). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08886(B)/11
CTS Ref. CTS/11/1372/LittleFuse

Date : 18/05/2011

Page: 3 of 5

Test Item(s):	Unit	Test Method	Results	MDL
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether ##	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

Note : (a) mg/kg = ppm ; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) # = Spot-Test:

a. Negative means the absence of Cr(VI) on the tested areas

b. Positive means the presence of Cr(VI) on the tested areas

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed)

Boiling water extraction:

a. Negative means the absence of Cr(VI) on the tested areas

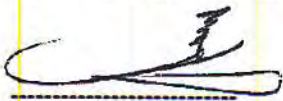
b. Positive means the presence of Cr(VI) on the tested areas;

The detected concentration in 50 mL boiling water extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

(e) - = Not regulated

SGS LABORATORY SERVICES (M) SDN. BHD.


CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/autentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08886(B)/11
CTS Ref. CTS/11/1372/Littelfuse

Date : 18/05/2011

Page: 4 of 5

Test Part Description :

Sample Description : Tin Plated Wire



SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgsonsite.com/authentication. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

Test Report

No. LPCI/08886(B)/11
CTS Ref. CTS/11/1372/LittelFuse

Date : 18/05/2011

Page: 5 of 5

1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

2. DETERMINATION OF LEAD CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Wet digestion / Microwave digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321 2008

Sample Receiving and Registration
↓
Cut sample in small pieces
↓
Weight sample (0.1-0.5g) into digestion vessel
↓
Acid digestion (Microwave)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

4. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321 2008

Sample Receiving and Registration
↓
Sample Preparation
↓
Spot-test (Qualitative)
↓
Boiling-water-extraction
↓
Analyses by UV- Spectrophotometer
↓
Test Report

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321 2008

Cut sample in small pieces
↓
Weight sample (0.5-4.0g) into extraction thimble
↓
Soxhlet Extraction with Toluene
↓
Filter through 0.45 um membrane filter
↓
Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_e-document.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. Even if printed this electronic document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/verification. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.