

# Survey Report

LIGHT COUNTRY CO., LTD.  
10F-1, NO. 102, SEC. 3, CHUNG SHAN RD., CHUNG HO CITY,  
TAIPEI HSIEN, TAIWAN, R. O. C.  
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No. : CS/2007/30046C  
Date : 2007/08/16  
Page : 1 of 7



The following test reports/information were submitted and identified by the client as :

Sample Description : 1M TOGGLE SWITCHES  
Testing Period : 2006/03/15 TO 2007/02/07

=====  
Test Result(s) : Please refer to next page(s).

\*This report is combined with 14 copies of test reports which hereby certified by SGS through the verification of each above certification provided by client.\*

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

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No. : CS/2007/30046C  
 Date : 2007/08/16  
 Page : 2 of 7



## Test Result(s)

PART NAME NO.1 : PINK PIECES (CE/2007/16523)  
 PART NAME NO.2 : BLACK GRANULE (CE/2006/36272)  
 PART NAME NO.3 : PTFE (06-08-IAG-140) (ETC)  
 PART NAME NO.4 : MIXED RED / BLACK PLASTIC (CE/2006/87689)  
 PART NAME NO.5 : GOLDEN COLORED METAL (CE/2006/B4660B)  
 PART NAME NO.6 : COPPER COLORED METAL (CE/2006/34692)  
 PART NAME NO.7 : GOLDEN COLORED METAL (CE/2006/96799)  
 PART NAME NO.8 : SILVER COLORED METAL WIRE (CE/2006/96160)  
 PART NAME NO.9 : SILVER COLORED METAL WIRE (CE/2006/75071)  
 PART NAME NO.10 : SILVER COLORED METAL (CE/2006/A0778)  
 PART NAME NO.11 : SILVER-WHITE COLORED METAL (CE/2006/B3100A NO.1)  
 PART NAME NO.12 : PLATING LAYER OF SILVER-WHITE COLORED METAL (CE/2006/B3100A NO.2)  
 PART NAME NO.13 : GOLDEN COLORED METAL (CE/2007/18361A NO.1)  
 PART NAME NO.14 : PLATING LAYER OF GOLDEN COLORED METAL (CE/2007/18361A NO.2)  
 PART NAME NO.15 : SILVER COLORED METAL (CE/2006/B3102 NO.1)  
 PART NAME NO.16 : PLATING LAYER OF SILVER COLORED METAL (CE/2006/B3102 NO.2)  
 PART NAME NO.17 : SILVER-WHITE COLORED METAL (CE/2006/A0085A NO.1)  
 PART NAME NO.18 : PLATING LAYER OF SILVER-WHITE COLORED METAL (CE/2006/A0085A NO.2)

Test Item(s):	Unit	Method	MDL	Result					
				NO.1	NO.2	NO.3	NO.4	NO.5	
Monobromobiphenyl	mg/kg	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	n.d.	---	n.d.	---	
Dibromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Tribromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Tetrabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Pentabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Hexabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Heptabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Octabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Nonabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
Decabromobiphenyl	mg/kg		5	---	n.d.	---	n.d.	---	
<b>Total PBBs</b>	mg/kg		-	---	n.d.	n.d.	n.d.	---	
Monobromobiphenyl ether	mg/kg		With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	n.d.	---	n.d.	---
Dibromobiphenyl ether	mg/kg			5	---	n.d.	---	n.d.	---
Tribromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Tetrabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Pentabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Hexabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Heptabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Octabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Nonabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
Decabromobiphenyl ether	mg/kg	5		---	n.d.	---	n.d.	---	
<b>Total PBBEs(PBDEs)</b>	mg/kg	-		---	n.d.	n.d.	n.d.	---	
<b>Total of Mono to Nona (Note 4)</b>	mg/kg	-		---	n.d.	---	n.d.	---	

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No. : CS/2007/30046C  
 Date : 2007/08/16  
 Page : 3 of 7



Test Item(s):	Unit	Method	MDL	Result				
				NO.1	NO.2	NO.3	NO.4	NO.5
Monobromobiphenyl	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	5	n.d.	---	---	---	---
Dibromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Tribromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Tetrabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Pentabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Hexabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Heptabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Octabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Nonabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
Decabromobiphenyl	mg/kg		5	n.d.	---	---	---	---
<b>Sum of PBBs</b>	mg/kg		-	n.d.	---	---	---	---
Monobromobiphenyl ether	mg/kg		With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	5	n.d.	---	---	---
Dibromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Tribromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Tetrabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Pentabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Hexabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Heptabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Octabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Nonabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
Decabromobiphenyl ether	mg/kg	5		n.d.	---	---	---	---
<b>Sum of PBDEs (Mono to Deca)</b>	mg/kg	-		n.d.	---	---	---	---
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>	mg/kg	-		n.d.	---	---	---	---
Test Item(s):	Unit	Method	MDL	Result				
Hexavalent Chromium Cr(VI)	mg/kg	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.	2	---	n.d.	n.d.	n.d.	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.	---	---	---	---
Cadmium (Cd)	mg/kg	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	---	n.d.	---	n.d.	44.1

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No. : CS/2007/30046C  
 Date : 2007/08/16  
 Page : 4 of 7



Test Item(s):	Unit	Method	MDL	Result				
				NO.1	NO.2	NO.3	NO.4	NO.5
Cadmium (Cd)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.	---	---	---	---
	mg/kg	With reference to US EPA Method 3051A for Cadmium Content. Analysis was performed by ICP-AES.	2	---	---	n.d.	---	---
Mercury (Hg)	mg/kg	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	---	n.d.	---	n.d.	n.d.
	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.	---	---	---	---
	mg/kg	With reference to US EPA Method 3051A for Mercury Content. Analysis was performed by ICP-AES.	2	---	---	n.d.	---	---
Lead (Pb)	mg/kg	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	---	n.d.	---	n.d.	29871.1
	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	n.d.	---	---	---	---
	mg/kg	With reference to US EPA Method 3051A for Lead Content. Analysis was performed by ICP-AES.	2	---	---	n.d.	---	---

Test Item(s):	Unit	Method	MDL	Result				
				NO.6	NO.7	NO.8	NO.9	NO.10
Monobromobiphenyl	mg/kg	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	n.d.	---	---	---
Dibromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Tribromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Tetrabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Pentabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Hexabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Heptabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Octabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Nonabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
Decabromobiphenyl	mg/kg		5	---	n.d.	---	---	---
<b>Total PBBs</b>	mg/kg	-	---	n.d.	---	---	---	

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No. : CS/2007/30046C  
 Date : 2007/08/16  
 Page : 5 of 7



Test Item(s):	Unit	Method	MDL	Result				
				NO.6	NO.7	NO.8	NO.9	NO.10
Monobromobiphenyl ether	mg/kg	With reference to USEPA3540C, Analysis was performed by GC/MS and screening via USEPA 3550C with HPLC/DAD/MS	5	---	n.d.	---	---	---
Dibromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Tribromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Tetrabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Pentabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Hexabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Heptabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Octabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Nonabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
Decabromobiphenyl ether	mg/kg		5	---	n.d.	---	---	---
<b>Total PBBEs(PBDEs)</b>	mg/kg		-	---	n.d.	---	---	---
<b>Total of Mono to Nona (Note 4)</b>	mg/kg		-	---	n.d.	---	---	---

Test Item(s):	Unit	Method	MDL	Result				
				NO.6	NO.7	NO.8	NO.9	NO.10
Hexavalent Chromium Cr(VI)	mg/kg	With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.	2	n.d.	---	---	n.d.	---
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	---	n.d.	---	---	---
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	**	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.	0.02mg/kg with 50 cm <sup>2</sup> surface area	---	---	Negative	---	Negative
Cadmium (Cd)	mg/kg	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	n.d.	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	n.d.	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	n.d.	29.4	16.3	6.6	n.d.

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No. : CS/2007/30046C  
 Date : 2007/08/16  
 Page : 6 of 7



Test Item(s):	Unit	Method	MDL	Result				
				NO.11	NO.12	NO.13	NO.14	NO.15
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	**	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.	0.02mg/kg with 50 cm <sup>2</sup> surface area	---	Negative	---	Negative	---
Cadmium (Cd)	mg/kg	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	n.d.	---	---	---	n.d.
	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	---	---	n.d.	---	---
Mercury (Hg)	mg/kg	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	n.d.	---	---	---	n.d.
	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	---	---	n.d.	---	---
Lead (Pb)	mg/kg	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	n.d.	---	---	---	7
	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	---	---	n.d.	---	---

Test Item(s):	Unit	Method	MDL	Result		
				NO.16	NO.17	NO.18
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	**	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.	0.02mg/kg with 50 cm <sup>2</sup> surface area	Negative	---	---
Hexavalent Chromium Cr(VI)	µg/cm <sup>2</sup>	As per ISO 3613 Section 5.6 method.	0.02	---	---	n.d.
Cadmium (Cd)	mg/kg	With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.	2	---	---	n.d.

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 Date : 2007/08/16  
 Page : 7 of 7



Test Item(s):	Unit	Method	MDL	Result		
				NO.16	NO.17	NO.18
Mercury (Hg)	mg/kg	With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.	2	---	---	n.d.
Lead (Pb)	mg/kg	With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.	2	---	70.4	---

- Note :
1. mg/kg = ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. According to 2005/717/EC DecaBDE is exempt.
  5. Spot-test:
    - Negative = Absence of Cr(VI) coating / surface layer,
    - Positive = Presence of Cr(VI) coating / surface layer;
    - (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)
  - Boiling-water-extraction:
    - Negative = Absence of Cr(VI) coating / surface layer.
    - Positive = Presence of Cr(VI) coating / surface layer;
    - the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.
  6. "---" = Not Conducted
  7. " - " = Not Regulated
  8. \*\* = Qualitative analysis (No Unit)

\*\* End of Report \*\*