



## Test Report

No.: GZ1005056552/CHEM

Date: MAY 27, 2010

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LIAN JING METAL MATERIAL (HUI ZHOU) CO., LTD  
CHENGHAI AREA, CHENJIANG TOWN, HUIZHOU CITY, GUANGDONG

The following sample(s) was/were submitted and identified on behalf of the applicant as LEAD-FREE PV Ribbon

SGS Job No. : SCATR1005002925  
Buyer : LDK  
Supplier : LIAN JING METAL MATERIAL (HUI ZHOU) CO., LTD  
Manufacturer : LIAN JING METAL MATERIAL (HUI ZHOU) CO., LTD  
Date of Sample Received : MAY 25, 2010  
Testing Period : MAY 25, 2010 TO MAY 27, 2010

Test Requested : Selected test (s) as requested by client.

Test Method : Please refer to next page(s).

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

Signed for and on behalf of  
SGS-CSTC Ltd.

Manson Yang  
Approved Signatory

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### Test Results:

Description for specimen 1 : Silvery plated metal tape

### Elementary Analysis

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	17	2
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321: 2008, UV-Vis	Negative	◇

### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. ◇ = Spot test:  
 Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;  
 (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:  
 Negative = Absence of CrVI coating  
 Positive = Presence of CrVI coating; 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.  
 Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.
5. "-" = Not regulated

### Flame Retardants

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Sum of PBBs	mg/kg	-	N.D.	-
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Sum of PBDEs	mg/kg	-	N.D.	-
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5

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SGS Standards Technical Services Co., Ltd.  
 Guangzhou Testing Service Chemical Laboratory

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Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Decabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5

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