

## Test Report

No. CANEC1102297204

Date: 22 Jun 2011

Page 1 of 10

SHENGYI TECHNOLOGY CO.,LTD  
5 W INDUSTRY RD,NORTH INDUSTRY DIST DONGGUAN SSL SCI & TECH INDUSTRY  
PARK,DONGGUAN CITY,GUANGDONG  
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :  
The Halogen Free Copper Clad Laminate

SGS Job No. : 13192832 - GZ  
Client Ref. Information : S1155(Prepreg:S0155)  
SGS Internal Reference No. : 5.4  
Date of Sample Received : 16 Jun 2011  
Testing Period : 16 Jun 2011 - 22 Jun 2011  
  
Test Requested : Selected test(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).

Signed for and on behalf of  
SGS-CSTC Ltd.



Merry Lv  
Approved Signatory

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# Test Report

No. CANEC1102297204

Date: 22 Jun 2011

Page 2 of 10

## Test Results:

ID for specimen 1 : CAN11-022972.004  
 Description for specimen 1 : Yellow board

## 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	4	2
Mercury (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321:2008, UV-Vis	N.D.	2

## Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

## 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
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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## Test Report

No. CANEC1102297204

Date: 22 Jun 2011

Page 3 of 10

### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not regulated

### PFOS ( Perfluorooctane sulfonates )

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Perfluorooctane sulfonates (PFOS)	mg/kg	EPA 3550C: 2007, LC-MS	N.D.	10
PFOS Acid				
PFOS Metal Salt				
PFOS Amide				

### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:

- (1) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS equal to or below 10 mg/kg (0,001 % by weight) when it occurs in substances or in preparations.
- (2) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS in semi-finished products or articles, or parts thereof, if the concentration of PFOS is lower than 0,1 % by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is lower than 1µg /m<sup>2</sup> of the coated material.

### Phthalate(s)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Dibutyl Phthalate (DBP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Benzylbutyl Phthalate (BBP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Di-(2-ethylhexyl) Phthalate (DEHP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diisononyl Phthalate (DINP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.01
Di-n-octyl Phthalate (DNOP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diisodecyl Phthalate (DIDP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.01
Diiso butyl Phthalate (DIBP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Di-n-hexyl phthalate (DNHP)	% (w/w)	EN14372: 2004, GC-MS	N.D.	0.003

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## Test Report

No. CANEC1102297204

Date: 22 Jun 2011

Page 4 of 10

1. mg/kg = ppm; 0.1% = 1000ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

### Halogen

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Fluorine (F)	mg/kg	BS EN 14582:2007, IC	1003	50
Chlorine (Cl)	mg/kg	BS EN 14582:2007, IC	269	50
Bromine (Br)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Iodine (I)	mg/kg	BS EN 14582:2007, IC	N.D.	50

#### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

### HBCDD

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Hexabromocyclododecane (HBCDD)	mg/kg	EPA 3550C: 2007, GC-MS	N.D.	10

#### Note:

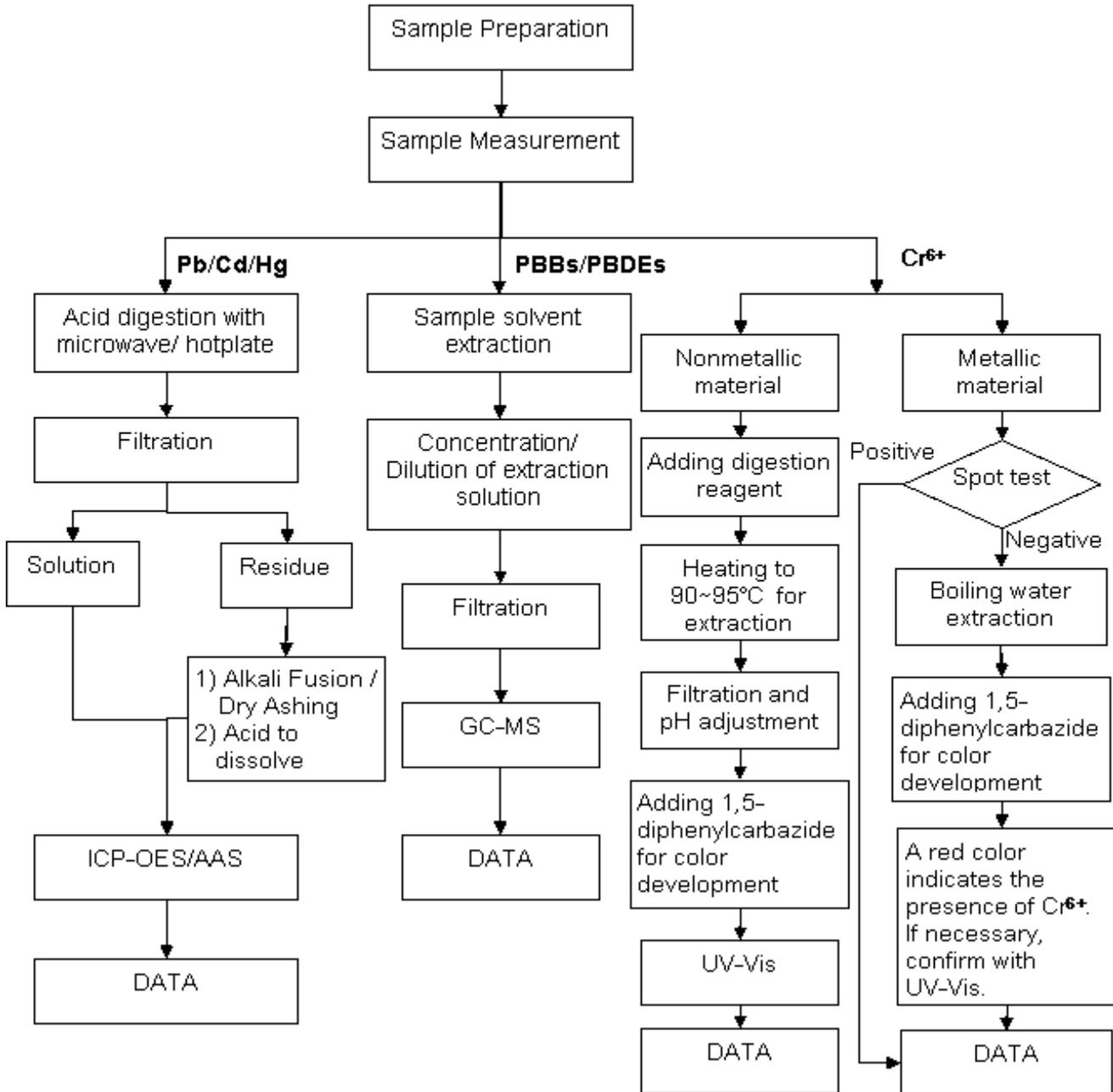
1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

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ATTACHMENTS

**RoHS Testing Flow Chart**

- 1) Name of the person who made testing: Bella Wang / Cutey Yu / Ross Zhan
- 2) Name of the person in charge of testing: Adams Yu / Ryan Yang
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr6+ and PBBs/PBDEs test method excluded).

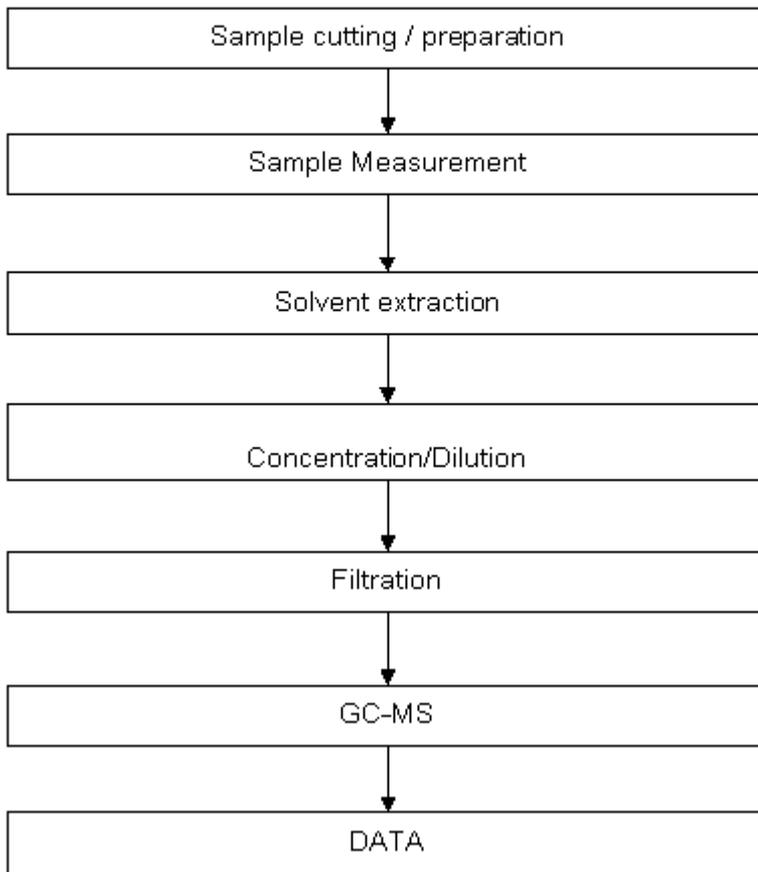


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## ATTACHMENTS

### Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Tina Zhao
- 2) Name of the person in charge of testing: Ryan Yang

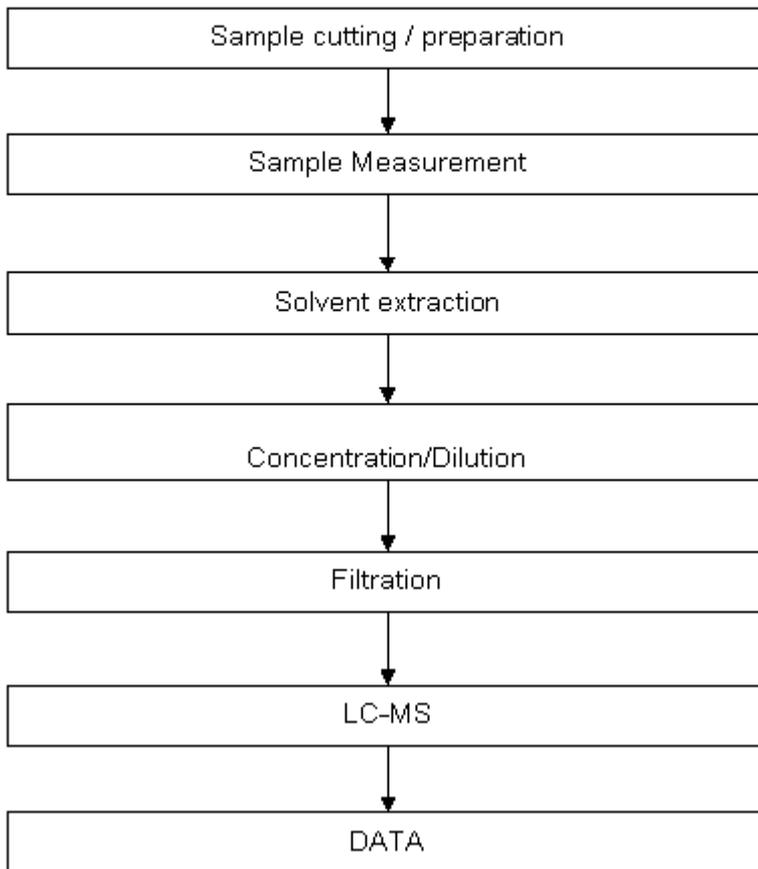


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### ATTACHMENTS

#### PFOA / PFOS Testing Flow Chart

- 1) Name of the person who made testing: Cindy Huang
- 2) Name of the person in charge of testing: Ryan Yang

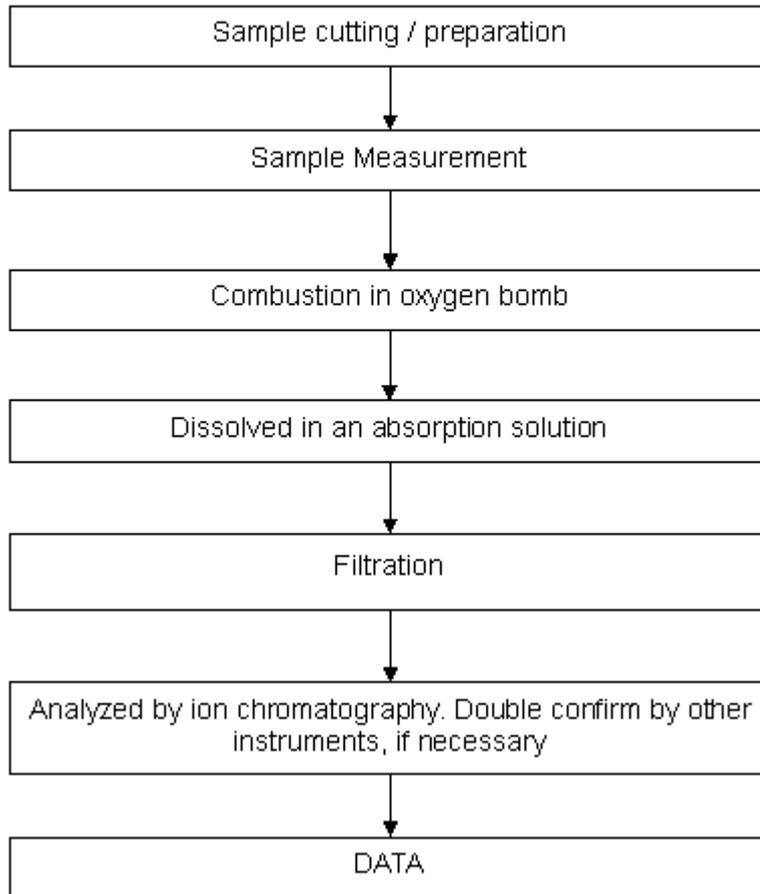


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## ATTACHMENTS

### Halogen Testing Flow Chart

- 1) Name of the person who made testing: Liang Wang
- 2) Name of the person in charge of testing: Michelle Song

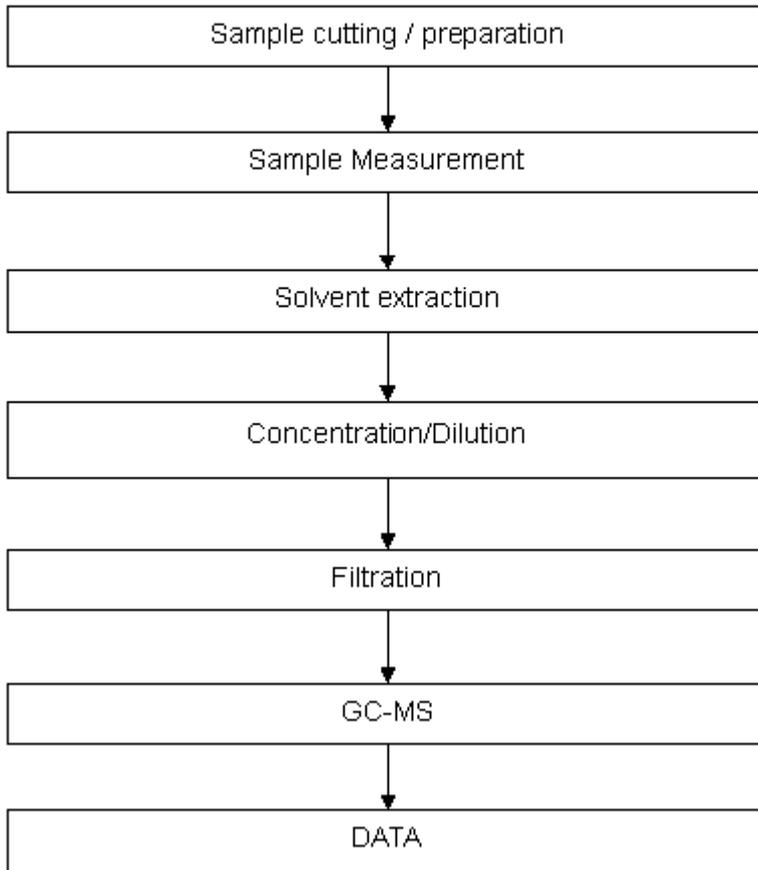


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## ATTACHMENTS

### HBCDD Testing Flow Chart

- 1) Name of the person who made testing: Cutey Yu
- 2) Name of the person in charge of testing: Ryan Yang



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