

## Test Report

No. SHAEC1103547302

Date: 30 Mar 2011

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ASE(KUNSHAN)INC.

NO373, SONGNAN ROAD, QIANDENG, KUNSHAN, JIANGSU PROVINCE, P.R.C

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

SGS Job No. : SP11-008050 - SH  
Model No. : DFN  
Sample May Cover : DFN/QFN  
Date of Sample Received : 28 Mar 2011  
Testing Period : 28 Mar 2011 - 30 Mar 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.



Fan Jingjie, JJ  
Approved Signatory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA11-035473.003	Black/silvery solid sheet(mix all*)

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

**RoHS Directive 2002/95/EC**

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs content by GC-MS.

Test Item(s)	Limit	Unit	MDL	003
Cadmium (Cd)	100	mg/kg	2	2
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

### Notes :

(1) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

(2)\*The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value and only for reference.

### Halogen

Test Method : With reference to EN 14582: 2007, analysis was performed by Ion Chromatograph (IC).

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

### Element(s)

Test Method : With reference to US EPA Method 3052:1996, analysis was performed by ICP-OES.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Antimony (Sb)	mg/kg	10	ND
Phosphorus (P)	mg/kg	20	189

### Phthalates

Test Method : With reference to EN14372: 2004, analysis was performed by GC-MS.

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<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Dibutyl Phthalate (DBP)	%	0.003	ND
Benzylbutyl Phthalate (BBP)	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	ND
Diisononyl Phthalate (DINP)	%	0.010	ND
Di-n-octyl Phthalate (DNOP)	%	0.003	ND
Diisodecyl Phthalate (DIDP)	%	0.010	ND
Diisobutyl Phthalate (DIBP)	%	0.003	ND
Di-n-hexyl Phthalate (DnHP)	%	0.003	ND

Notes :

- (1) DBP, BBP, DEHP Reference information: Entry 51 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC):
- i) Shall not be used as substances or in mixtures, in concentrations greater than 0,1 % by weight of the plasticised material, in toys and childcare articles.
  - ii) Toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
- Please refer to Regulation (EC) No 552/2009 to get more detail information
- DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
- i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
  - ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
- Please refer to Regulation (EC) No 552/2009 to get more detail information

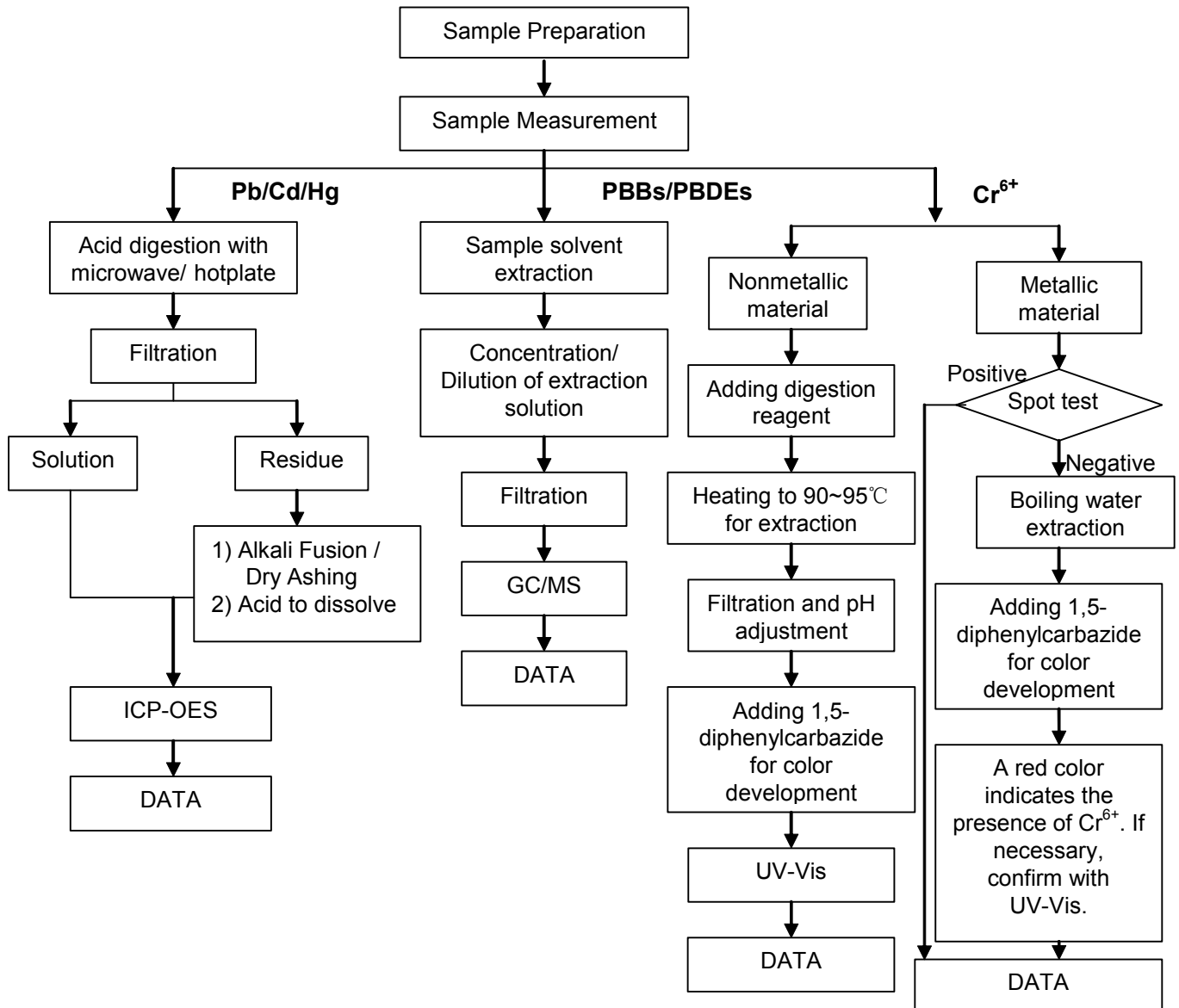
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**ATTACHMENTS**

**RoHS Testing Flow Chart**

- 1) Name of the person who made testing: Allen Xiao/ Even Xu / Andy Zhao /Gary Xu
- 2) Name of the person in charge of testing: Jeff Zhang/George Xu/ Elim Lin
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ and PBBs/PBDEs test method excluded)

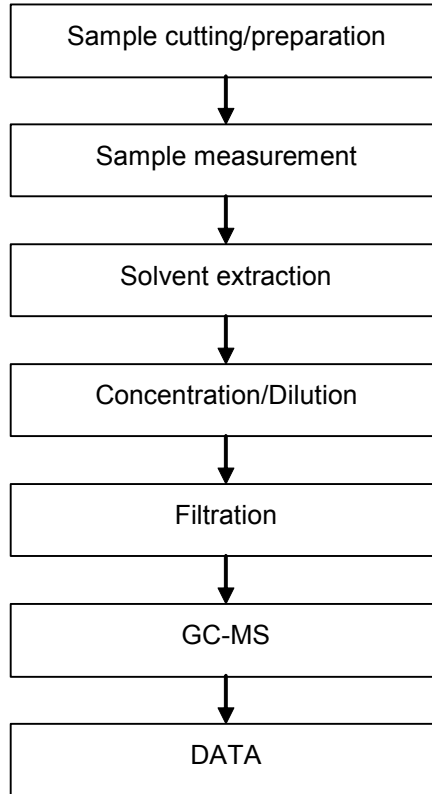


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## Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Vickey Gui
- 2) Name of the person in charge of testing: Susan Liu

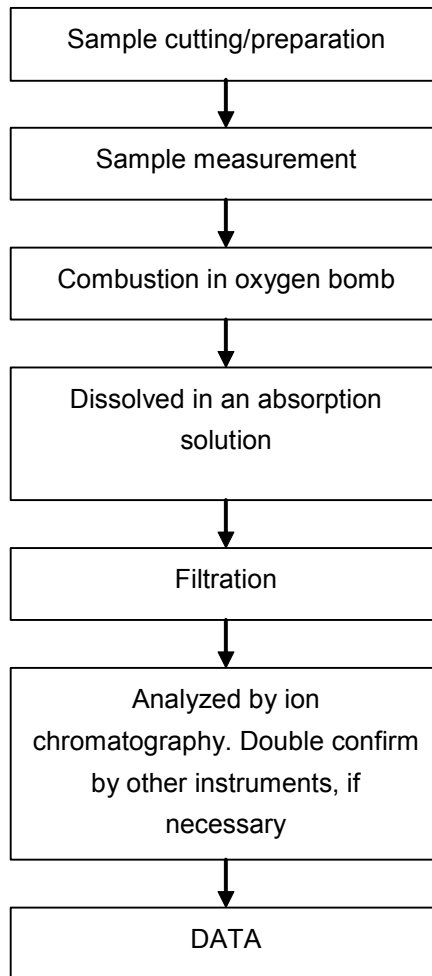


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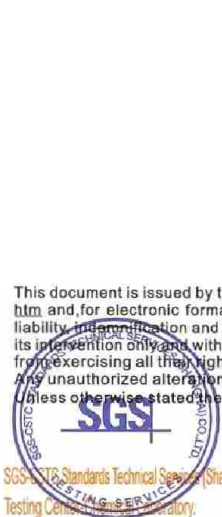


### Halogen Testing Flow Chart

- 1) Name of the person who made testing: Daisy Gong
- 2) Name of the person in charge of testing: Alex Jiang

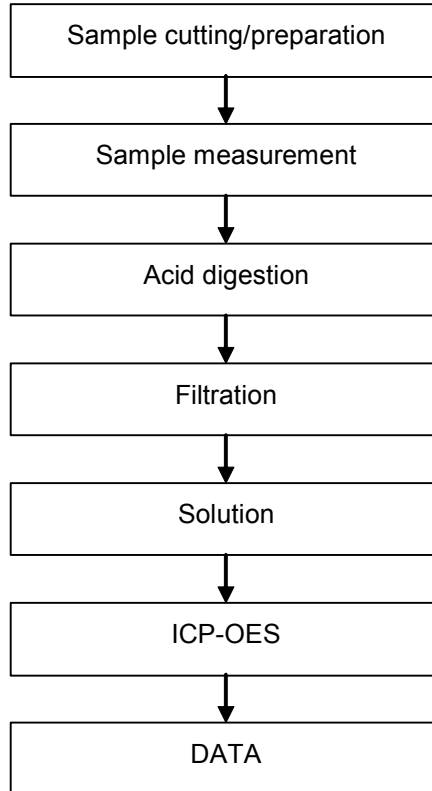


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## Elementary Testing Flow Chart

- 1) Name of the person who made testing: Even Xu / Allen Xiao
- 2) Name of the person in charge of testing: Jeff Zhang



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Sample photo:



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\*\*\* End of Report \*\*\*

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