

CHI-MEI CORPORATION  
59-1, SAN CHIA, JEN TE, TAINAN CITY 71702, TAIWAN

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

Sample Description : POLYCARBONATE  
Style/Item No. : WONDERLITE® PC-110  
Sample Receiving Date : 2012/12/20  
Testing Period : 2012/12/20 TO 2013/01/02  
Sample Submitted By : CHI-MEI CORPORATION

**Test Requested**

As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs contents in the submitted sample.

**Test Result(s)**

Please refer to next page(s).  
Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

*Ray Chang*

Ray Chang / Asst. Manager  
Signed for and on behalf of  
SGS Taiwan Limited



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## Test Result(s)

PART NAME NO.1 : NATURE POLYCARBONATE

Test Item (s):	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
<b>Sum of PBDEs</b>			mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.
Monobromodiphenyl ether	5	n.d.		
Dibromodiphenyl ether	5	n.d.		
Tribromodiphenyl ether	5	n.d.		
Tetrabromodiphenyl ether	5	n.d.		
Pentabromodiphenyl ether	5	n.d.		
Hexabromodiphenyl ether	5	n.d.		
Heptabromodiphenyl ether	5	n.d.		
Octabromodiphenyl ether	5	n.d.		
Nonabromodiphenyl ether	5	n.d.		
Decabromodiphenyl ether	5	n.d.		

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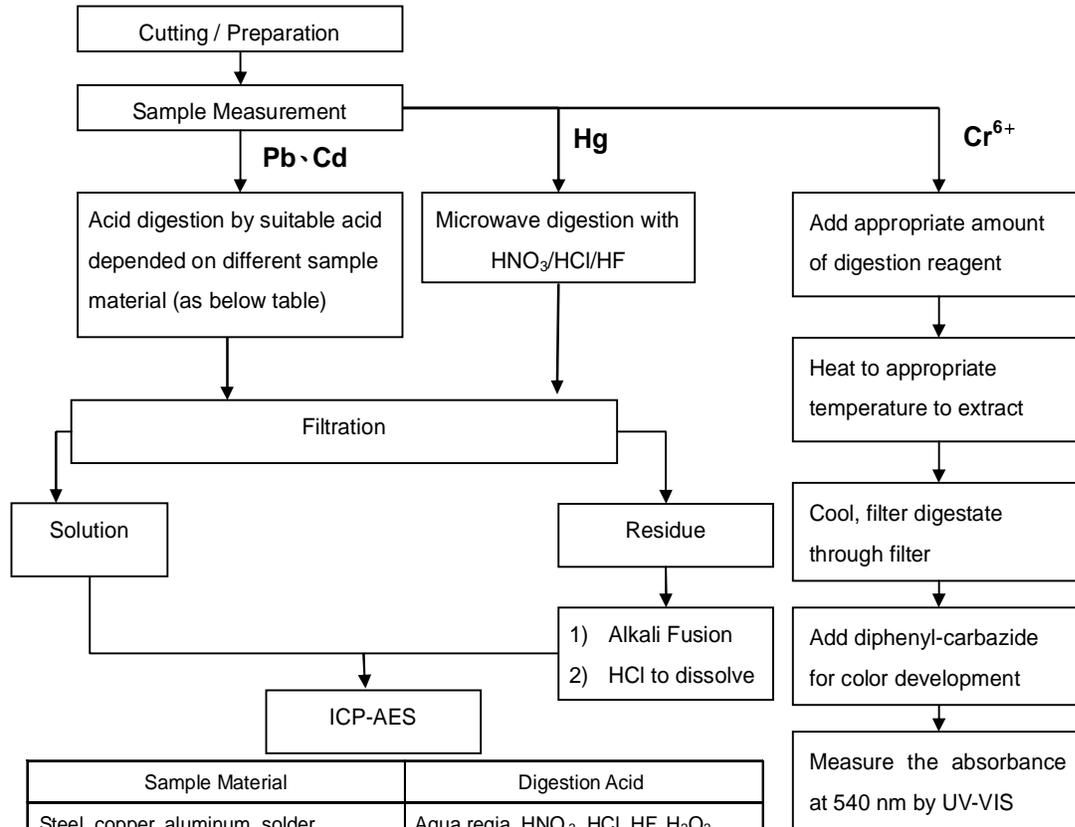
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Test Item (s):	Unit	Method	MDL	Result
				No.1
Hexabromocyclododecane (HBCDD) (CAS No.: 25637-99-4)	mg/kg	With reference to US EPA 3540C: 1996 method. Analysis was performed by GC/MS.	5	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.

- Note :
1. mg/kg = ppm ; 0.1wt% = 1000ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. " - " = Not Regulated

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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ test method excluded)
- 2) Name of the person who made measurement: Alex Chang
- 3) Name of the person in charge of measurement: Ray Chang



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

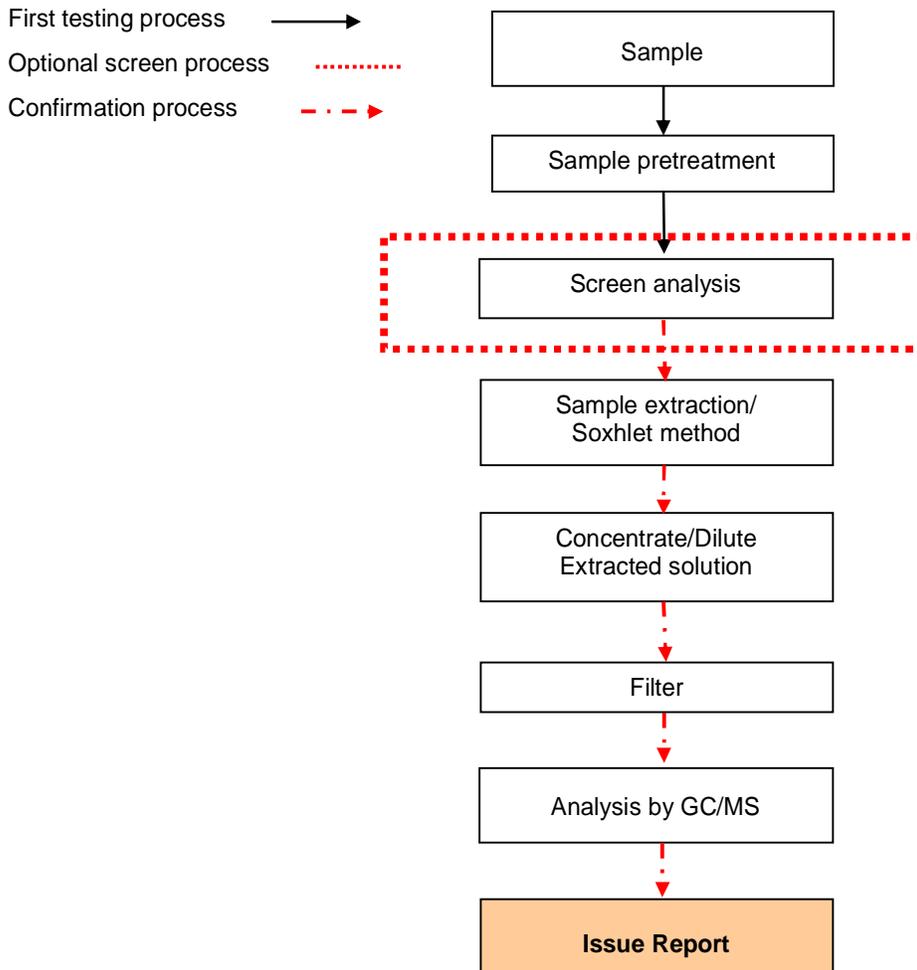
**Note\*\* :** (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95 °C.  
(2) For metallic material, add pure water and heat to boiling.

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### PBB/PBDE analytical FLOW CHART

1) Name of the person who made measurement: Anson Tsao

2) Name of the person in charge of measurement: Ray Chang

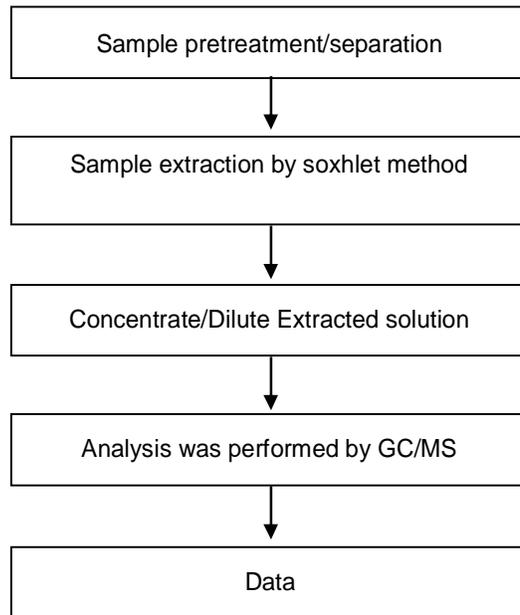


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### Analytical flow chart of phthalate content

- 1) Name of the person who made measurement: Anson Tsao
- 2) Name of the person in charge of measurement: Ray Chang

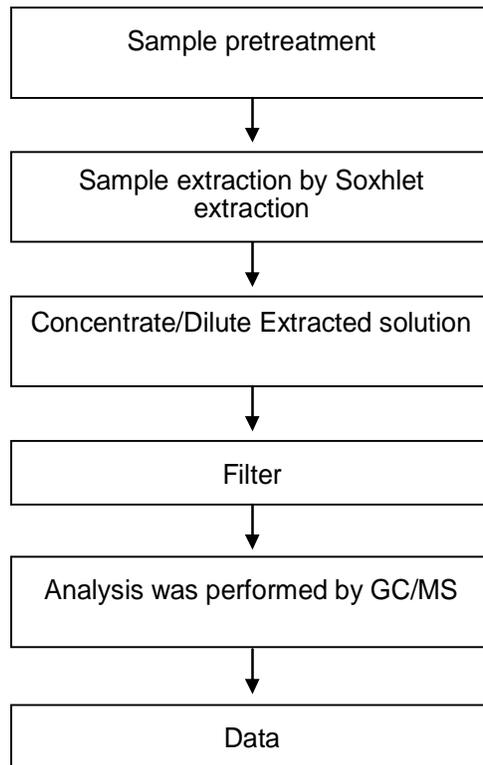


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### HBCDD Analytical FLOW CHART

- 1) Name of the person who made measurement: Anson Tsao
- 2) Name of the person in charge of measurement: Ray Chang



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\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

### KA/2012/C1647



\*\* End of Report \*\*