

## Test Report

No. : CE/2009/55079A    Date : 2009/06/02    Page : 1 of 7


PROTEK DEVICES  
2929 S. FAIR LANE, TEMPE, AZ 85282, U. S. A.



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

Sample Description : LOW CAPACITANCE TVS ARRAY  
Style/Item No. : 16 LEAD SOIC  
Sample Receiving Date : 2009/05/22  
Testing Period : 2009/05/22 TO 2009/06/02

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

  
**Chenyu Kung / Operation Manager**  
**Signed for and on behalf of**  
**SGS TAIWAN LTD.**  
**Chemical Laboratory – Taipei**

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# Test Report

No. : CE/2009/55079A Date : 2009/06/02 Page : 2 of 7

PROTEK DEVICES  
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## Test Result(s)

PART NAME NO.1 : MIXED ALL PARTS

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.
Antimony (Sb)	mg/kg	With reference to US EPA Method 3050B for Antimony Content. Analysis was performed by ICP-AES.	2	4200
<b>Sum of PBBs</b>			-	n.d.
Monobromobiphenyl	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	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.

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# Test Report

No. : CE/2009/55079A    Date : 2009/06/02    Page : 3 of 7

PROTEK DEVICES  
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Test Item (s):	Unit	Method	MDL	Result
				No.1
<b>Sum of PBDEs</b>	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
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.

- Note :
1. mg/kg = ppm ; 0.1wt% = 1000ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. " - " = Not Regulated
  5. 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.

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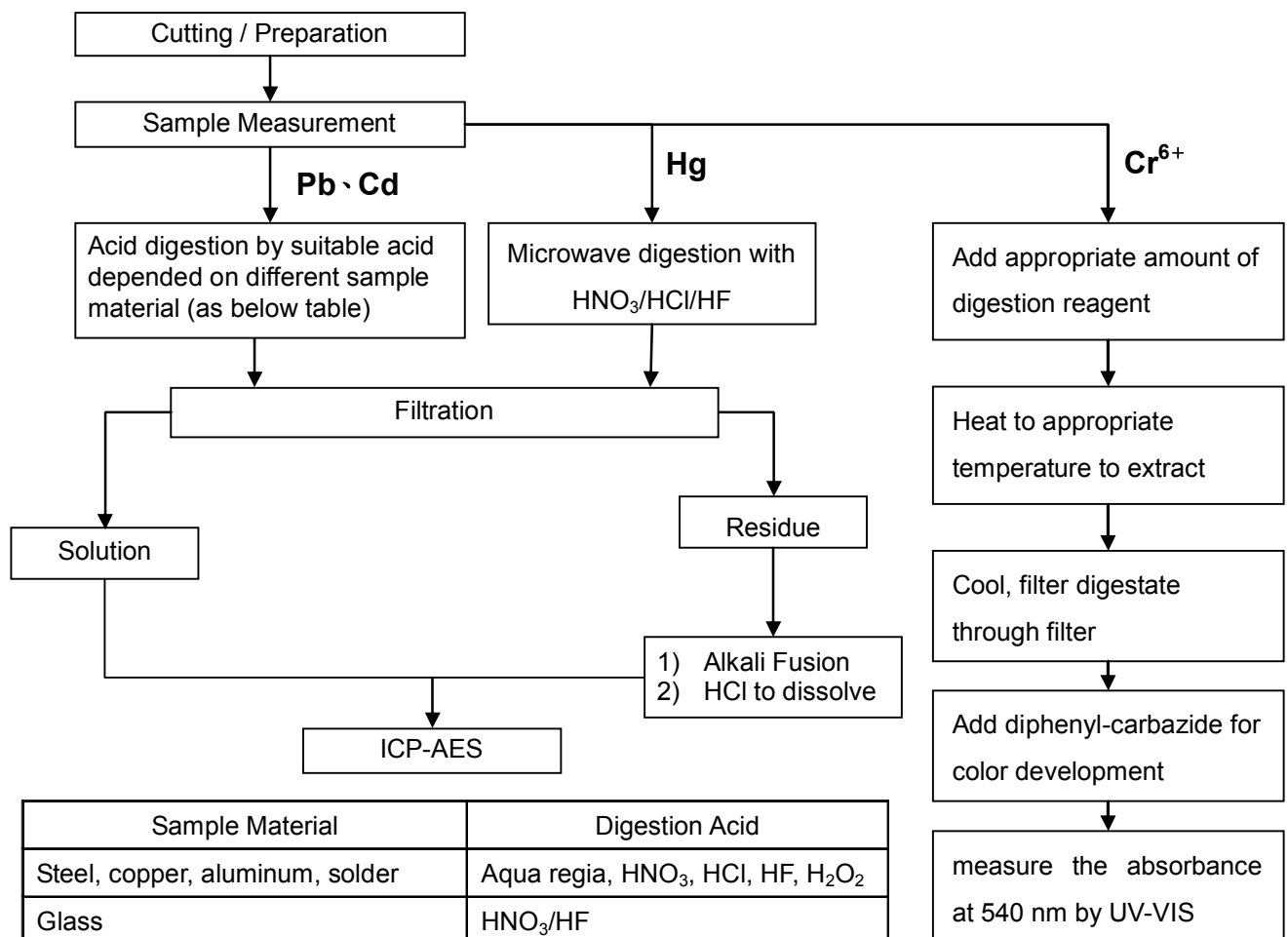
## Test Report

No. : CE/2009/55079A Date : 2009/06/02 Page : 4 of 7

PROTEK DEVICES  
2929 S. FAIR LANE, TEMPE, AZ 85282, U. S. A.



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy 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

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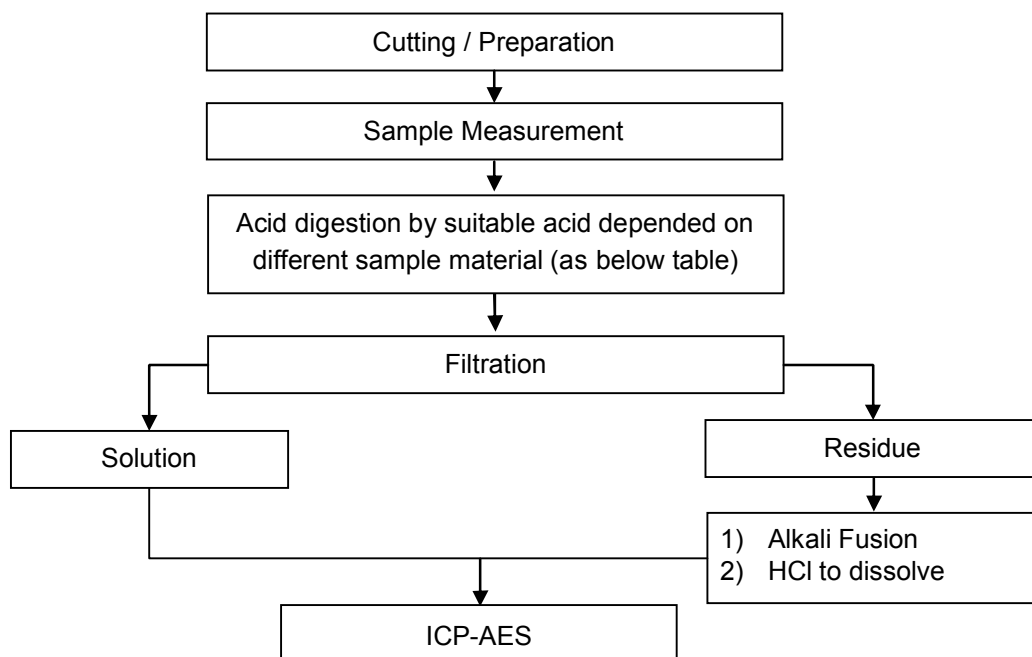
No. : CE/2009/55079A Date : 2009/06/02 Page : 5 of 7

PROTEK DEVICES  
2929 S. FAIR LANE, TEMPE, AZ 85282, U. S. A.



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang

### Flow Chart of digestion for the elements analysis performed by ICP-AES



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

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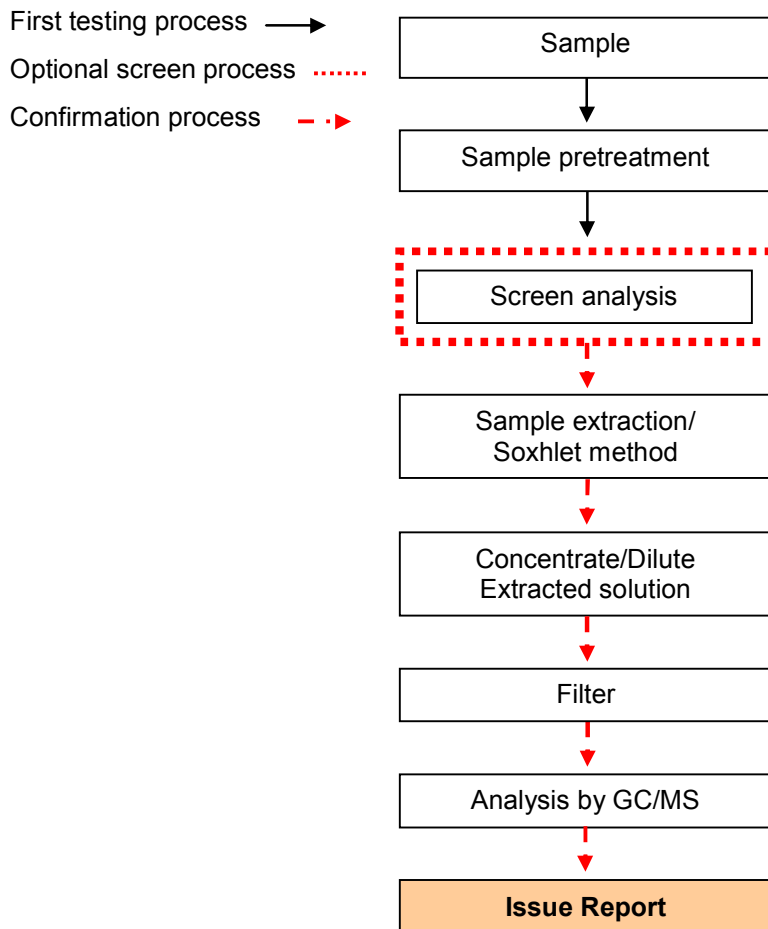
No. : CE/2009/55079A Date : 2009/06/02 Page : 6 of 7

PROTEK DEVICES  
2929 S. FAIR LANE, TEMPE, AZ 85282, U. S. A.



### PBB/PBDE analytical FLOW CHART

- 1) Name of the person who made measurement: Roman Wong
- 2) Name of the person in charge of measurement: Shinjyh Chen



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## Test Report

No. : CE/2009/55079A

Date : 2009/06/02

Page : 7 of 7

PROTEK DEVICES  
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\*\* End of Report \*\*

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