

## Test Report

No. : CE/2009/20198

Date : 2009/02/05

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SUMI-PAC CORPORATION  
NO. 15, INDUSTRIAL 5TH ROAD, HSIN-CHU ENLARGED INDUSTRIAL  
PARK, HSIN-CHU HSIEN, TAIWAN, R. O. C.




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

Sample Description : HEAT SHRINKABLE TUBING  
Style/Item No. : SUMITUBE F32 / F34  
Sample Receiving Date : 2009/02/02  
Testing Period : 2009/02/02 TO 2009/02/05

=====  
**Test Requested** : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

**Test Method** : With reference to IEC 62321: 2008  
Procedures for the Determination of Levels of Regulated Substances in  
Electrotechnical Products.  
(1) Determination of Cadmium by ICP-AES.  
(2) Determination of Lead by ICP-AES.  
(3) Determination of Mercury by ICP-AES.  
(4) Determination of Hexavalent Chromium by UV/Vis Spectrometry.  
(5) Determination of PBB and PBDE by GC/MS.

**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 results by chemical method (Unit: mg/kg)

| Test Item (s):                                       | Method<br>(Refer to) | Result | MDL |
|--|----------------------|--------|-----|
|  |                      | No.1   |     |
| Cadmium (Cd)   | (1)                  | n.d.   | 2   |
| Lead (Pb)  | (2)                  | n.d.   | 2   |
| Mercury (Hg)   | (3)                  | n.d.   | 2   |
| Hexavalent Chromium Cr(VI) by<br>alkaline extraction | (4)                  | n.d.   | 2   |
| <b>Sum of PBBs</b>                                   | (5)                  | n.d.   | -   |
| Monobromobiphenyl                                    |                      | n.d.   | 5   |
| Dibromobiphenyl                                      |                      | n.d.   | 5   |
| Tribromobiphenyl                                     |                      | n.d.   | 5   |
| Tetrabromobiphenyl                                   |                      | n.d.   | 5   |
| Pentabromobiphenyl                                   |                      | n.d.   | 5   |
| Hexabromobiphenyl                                    |                      | n.d.   | 5   |
| Heptabromobiphenyl                                   |                      | n.d.   | 5   |
| Octabromobiphenyl                                    |                      | n.d.   | 5   |
| Nonabromobiphenyl                                    |                      | n.d.   | 5   |
| Decabromobiphenyl                                    |                      | n.d.   | 5   |
| <b>Sum of PBDEs</b>                                  |                      | n.d.   | -   |
| Monobromodiphenyl ether                              |                      | n.d.   | 5   |
| Dibromodiphenyl ether                                |                      | n.d.   | 5   |
| Tribromodiphenyl ether                               |                      | n.d.   | 5   |
| Tetrabromodiphenyl ether                             |                      | n.d.   | 5   |
| Pentabromodiphenyl ether                             |                      | n.d.   | 5   |
| Hexabromodiphenyl ether                              |                      | n.d.   | 5   |
| Heptabromodiphenyl ether                             |                      | n.d.   | 5   |
| Octabromodiphenyl ether                              |                      | n.d.   | 5   |
| Nonabromodiphenyl ether                              |                      | n.d.   | 5   |
| Decabromodiphenyl ether                              |                      | n.d.   | 5   |

## TEST PART DESCRIPTION:

NO.1 : BLACK PLASTIC TUBE WITH WHITE PRINTED

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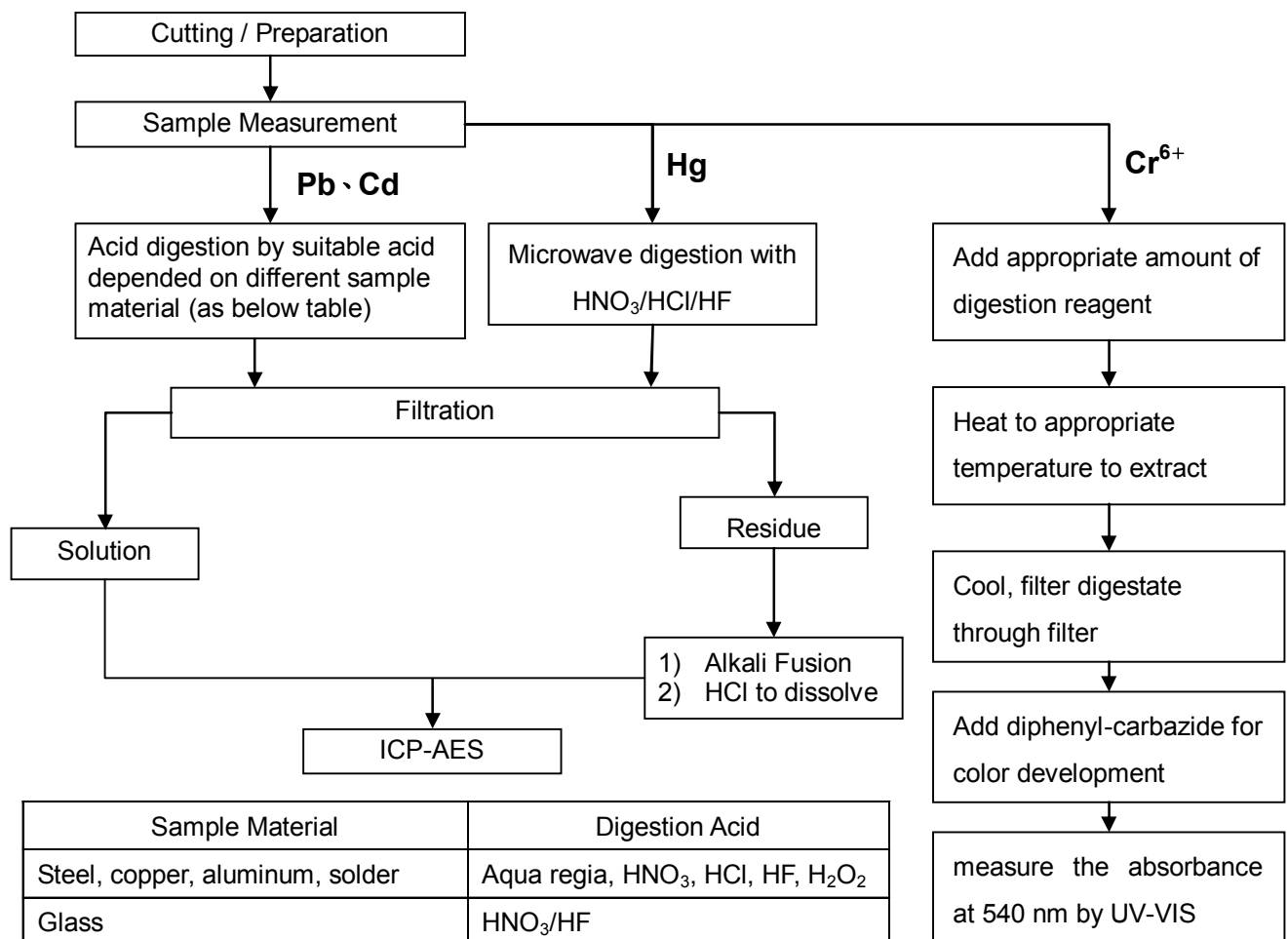
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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: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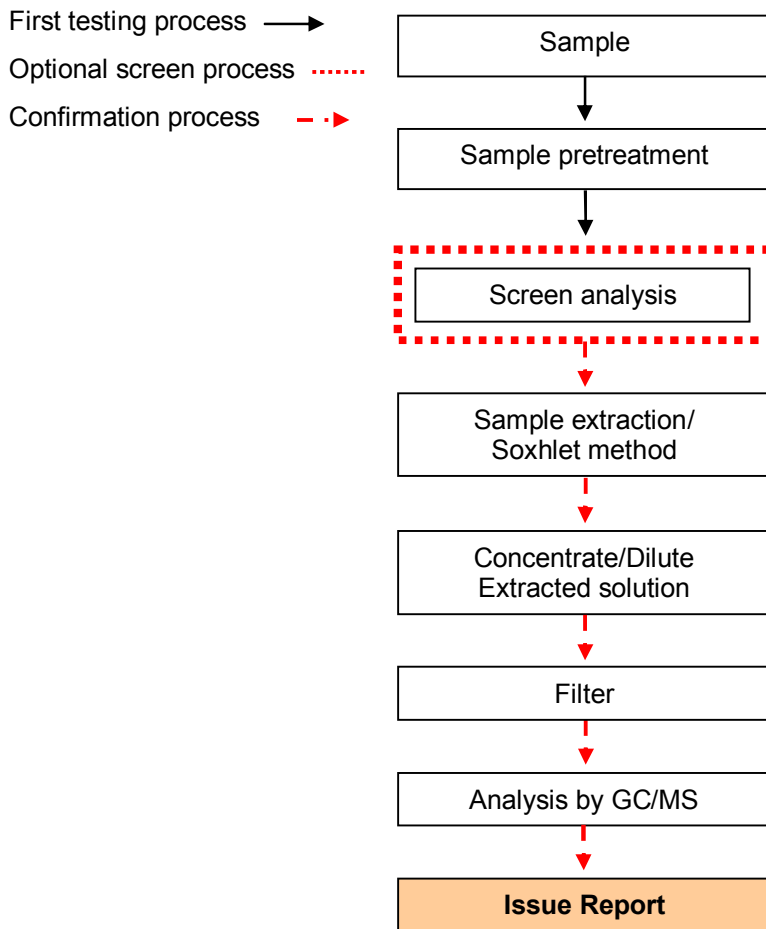
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### PBB/PBDE analytical FLOW CHART

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

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