

# Test Report

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EPSON TAIWAN TECHNOLOGY & TRADING LTD.  
14F., NO.7, SONG REN ROAD, TAIPEI 110, TAIWAN, R. O. C.



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

Sample Description : CRYSTAL OSCILLATOR  
Style/Item No. : SG-30XXJXLX (SG-3030JF, SG-3030JC, SG-3030LC,  
SG-3032JC, SG-3040JC, SG-3040LC)  
Sample Receiving Date : 2007/12/12  
Testing Period : 2007/12/12 TO 2007/12/17

=====  
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 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, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	1110
Mercury (Hg)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Arsenic (As)	mg/kg	With reference to US EPA Method 3052 for Arsenic Content. Analysis was performed by ICP-AES.	2	n.d.
Antimony (Sb)	mg/kg	With reference to US EPA Method 3050B for Antimony Content. Analysis was performed by ICP-AES.	2	10200
Bismuth (Bi)	mg/kg	With reference to US EPA Method 3050B for Bismuth Content. Analysis was performed by ICP-AES.	2	2440
Nickel (Ni)	mg/kg	With reference to US EPA Method 3050B for Nickel Content. Analysis was performed by ICP-AES.	2	83400
<b>Halogen</b>	---	With reference to BS EN 14582. Analysis was performed by IC method for F , Cl , Br, I content.	---	---
Halogen-Fluorine (F) (CAS No.: 007782-41-4)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Fluorine content.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Chlorine content.	50	n.d.

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Test Item (s):	Unit	Method	MDL	Result
				No.1
Halogen-Bromine (Br) (CAS No.: 007726-95-6)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Bromine content.	50	4670
Halogen-Iodine (I) (CAS No.: 007553-56-2)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Iodine content.	50	n.d.
<b>Sum of PBBs</b>			-	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 (Mono to Nona) (Note 4)</b>	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.
Monobromobiphenyl ether			5	n.d.
Dibromobiphenyl ether			5	n.d.
Tribromobiphenyl ether			5	n.d.
Tetrabromobiphenyl ether			5	n.d.
Pentabromobiphenyl ether			5	n.d.
Hexabromobiphenyl ether			5	n.d.
Heptabromobiphenyl ether			5	n.d.
Octabromobiphenyl ether			5	n.d.
Nonabromobiphenyl ether			5	n.d.
Decabromobiphenyl ether			5	n.d.
<b>Sum of PBDEs (Mono to Deca)</b>			-	n.d.

- Note :
1. mg/kg = ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. According to 2005/717/EC DecaBDE is exempt.
  5. "---" = Not Conducted
  6. "- " = Not Regulated
  7. 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.

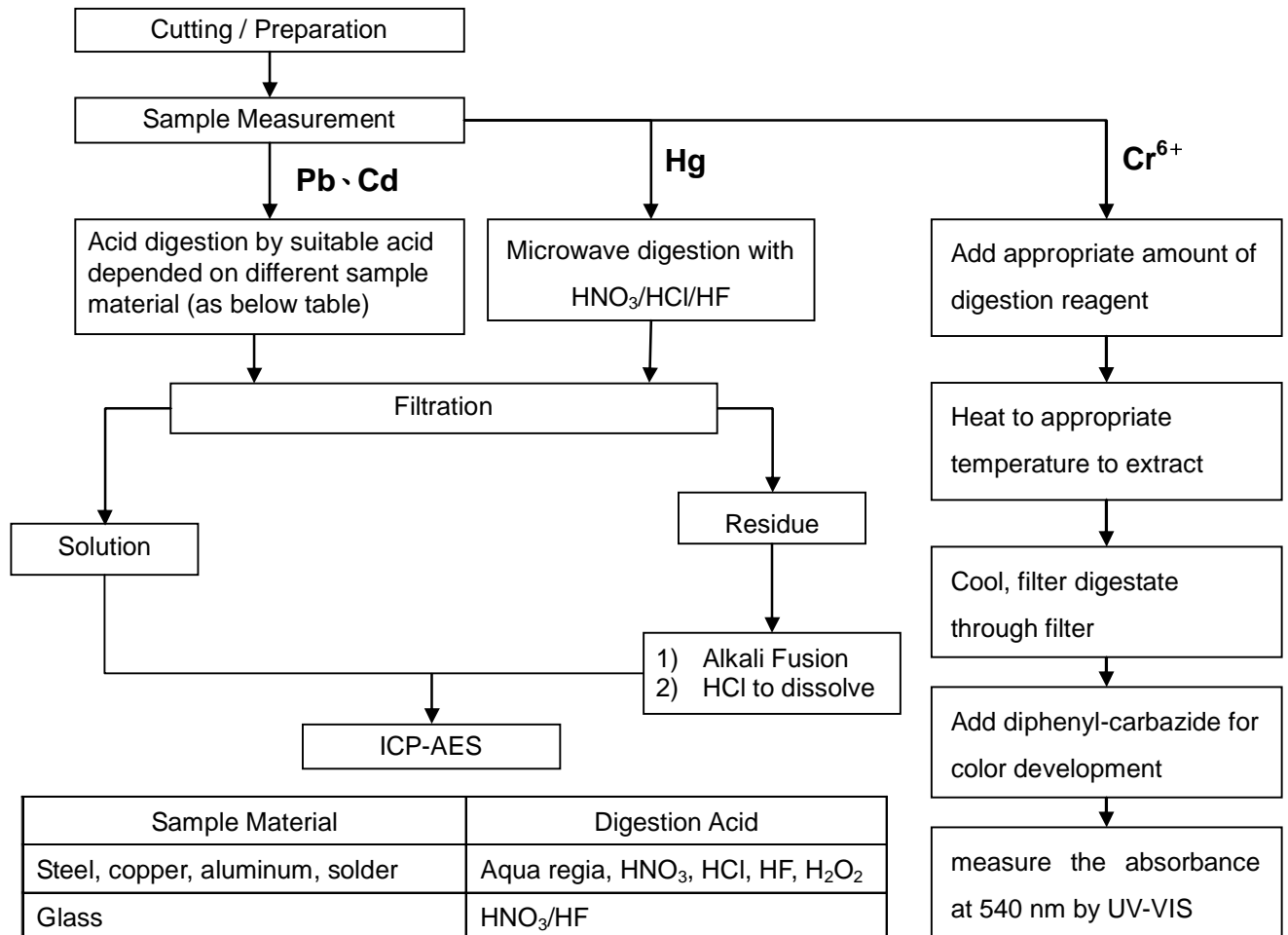
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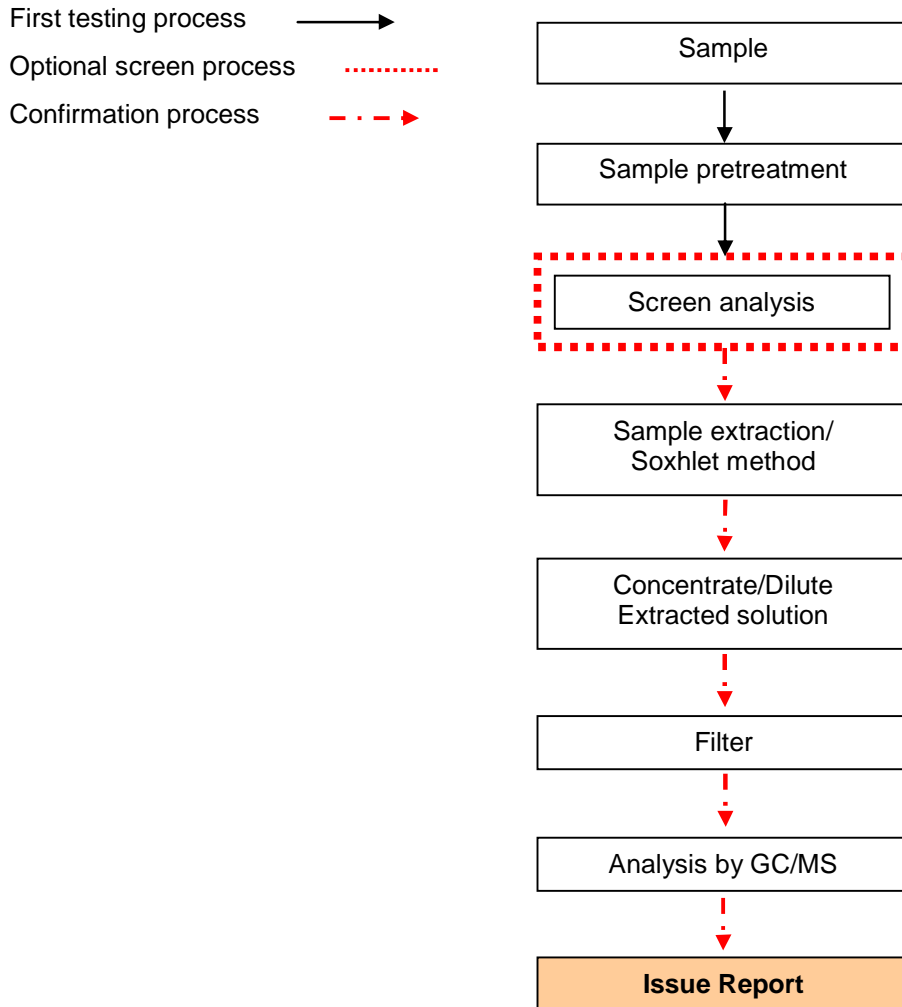
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



## PBB/PBDE analytical FLOW CHART



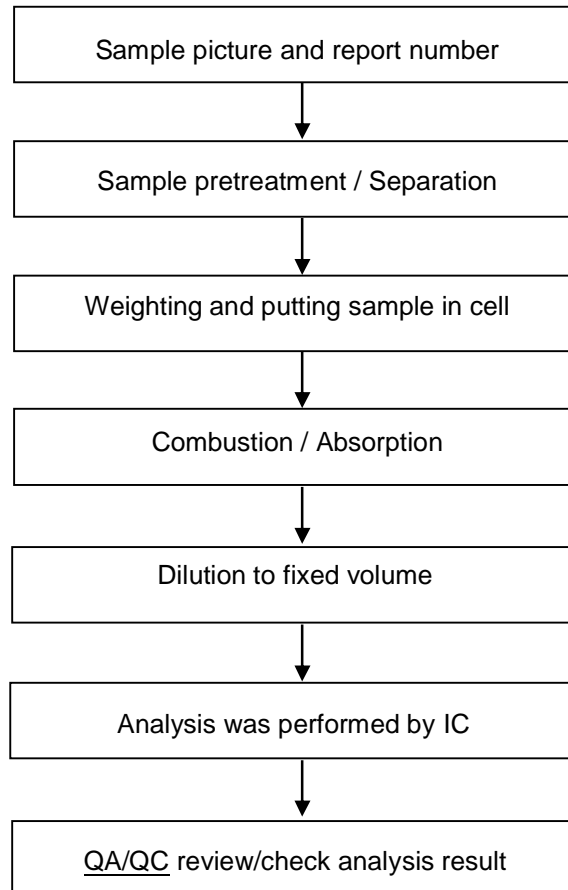
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## Analytical flow chart of halogen content



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\*\* End of Report \*\*