



Test Report No. F690101/LF-CTSAYAA17-32973

Issued Date : 2017. 06. 20

Page 1 of 6

SAMWHA ELECTRONICS CO., LTD.

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Cheoin-gu Yongin-si, Gyeonggi-do
Korea



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

SGS File No. : AYAA17-32973
Product Name : EX-FLUX
Item No./Part No. : N/A
Received Date : 2017. 06. 15
Test Period : 2017. 06. 15 to 2017. 06. 20
Test Results : For further details, please refer to following page(s)

SGS Korea Co., Ltd.

Jeff Jang / Chemical Lab Mgr

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Page 2 of 6

Sample No. : AYAA17-32973.001
Sample Description : EX-FLUX
Item No./Part No. : N/A
Materials : N/A

Heavy Metals

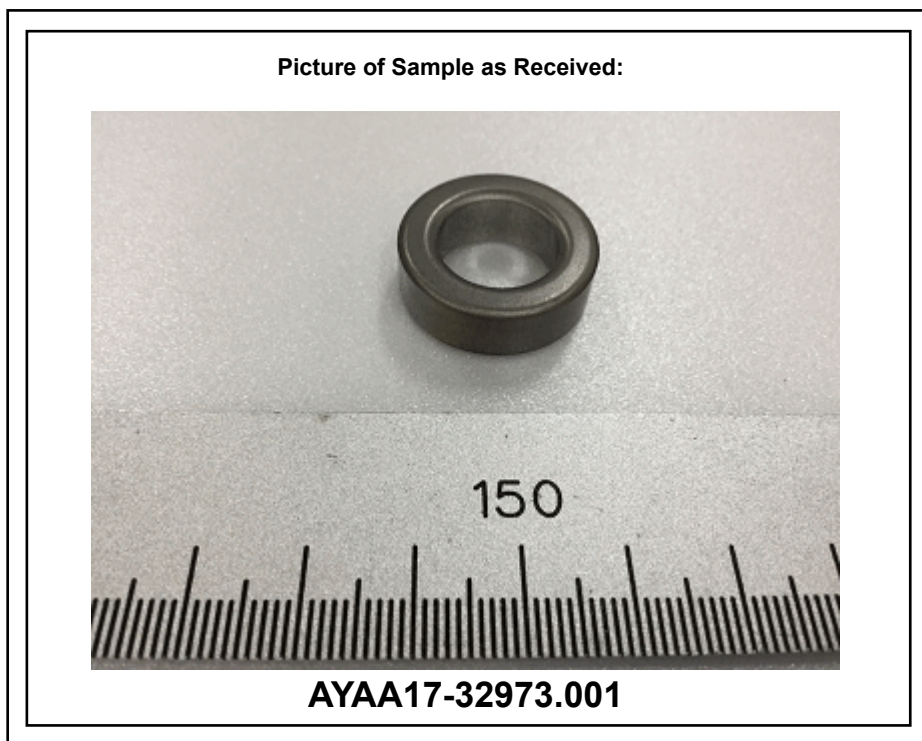
Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Cadmium by ICP-OES)	0.5	N.D.
Lead (Pb)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Lead by ICP-OES)	5	N.D.
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013 (Determination of Mercury by ICP-OES)	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	With reference to IEC 62321:2008 (Determination of Hexavalent Chromium by spot test/Colorimetric Method using UV-Vis)	1	N.D.

Halogen Content

Test Items	Unit	Test Method	MDL	Results
Bromine(Br)	mg/kg	With reference to EN 14582, IC	30	N.D.
Chlorine(Cl)	mg/kg	With reference to EN 14582, IC	30	N.D.

- NOTE:
- (1) N.D. = Not detected.(<MDL)
 - (2) mg/kg = ppm
 - (3) MDL = Method Detection Limit
 - (4) - = No regulation
 - (5) Negative = Undetectable / Positive = Detectable
 - (6) ** = Qualitative analysis (No Unit)
 - (7) * = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 ug/cm². The sample coating is considered to contain CrVI.
b. The sample is negative for CrVI if CrVI is n.d. (concentration less than 0.10 ug/cm²). The coating is considered a non-CrVI based coating.
c. The result between 0.10 ug/cm² and 0.13 ug/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.

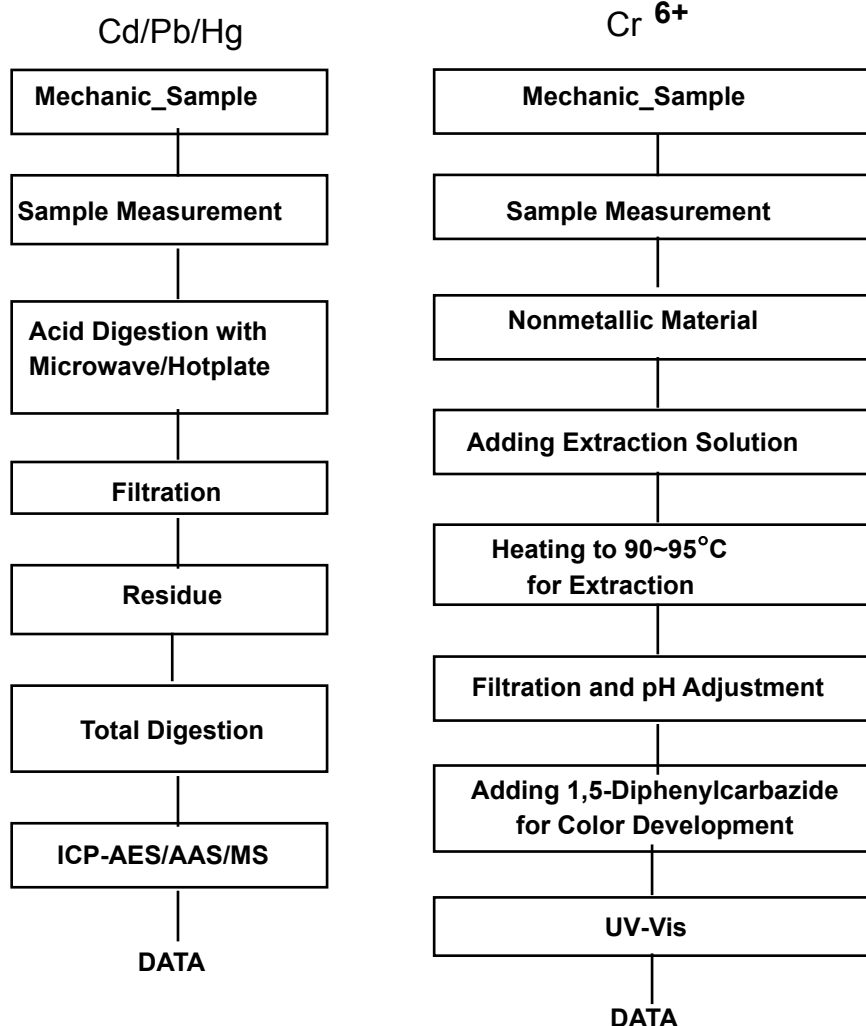
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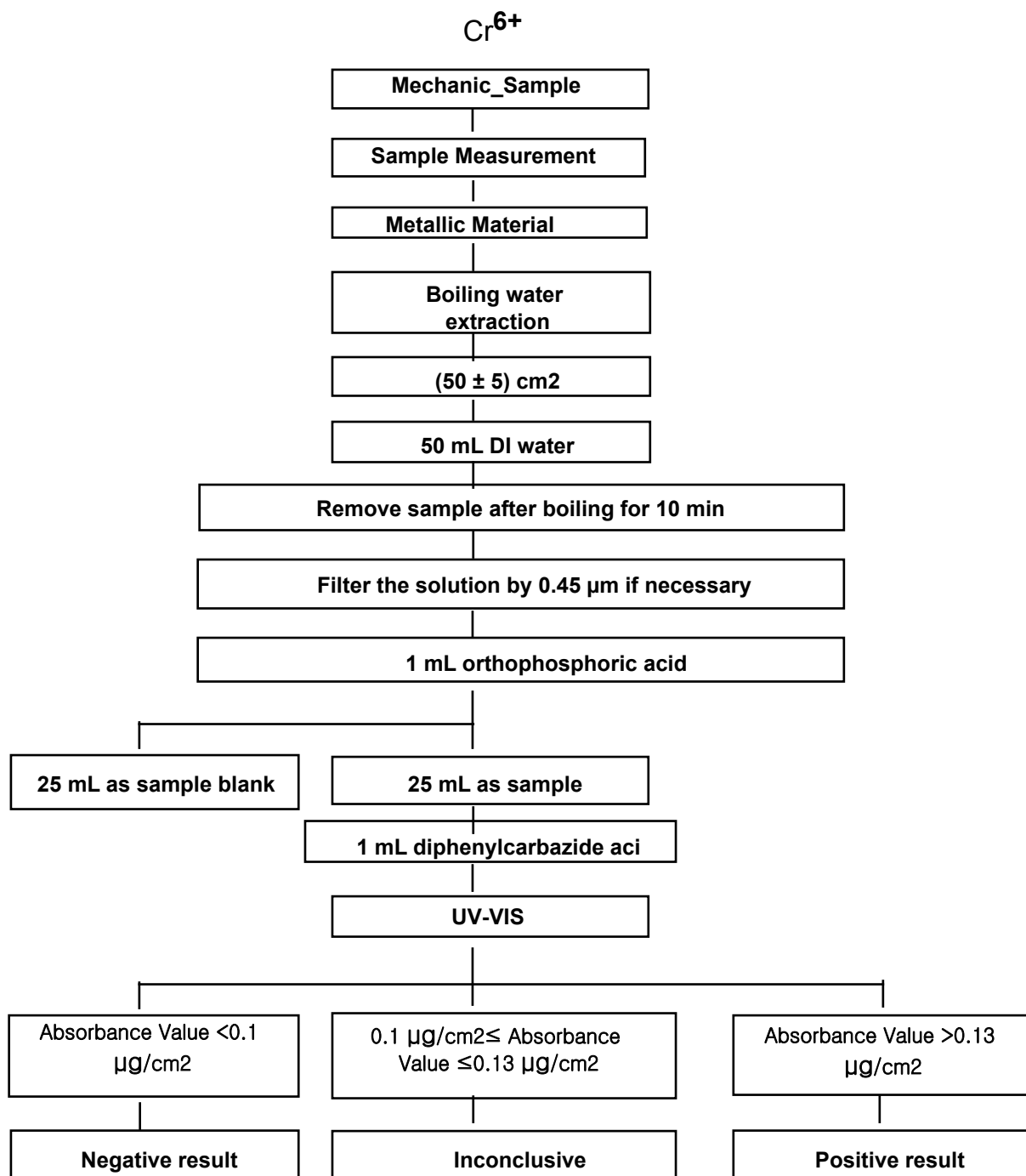
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Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr⁶⁺ Testing



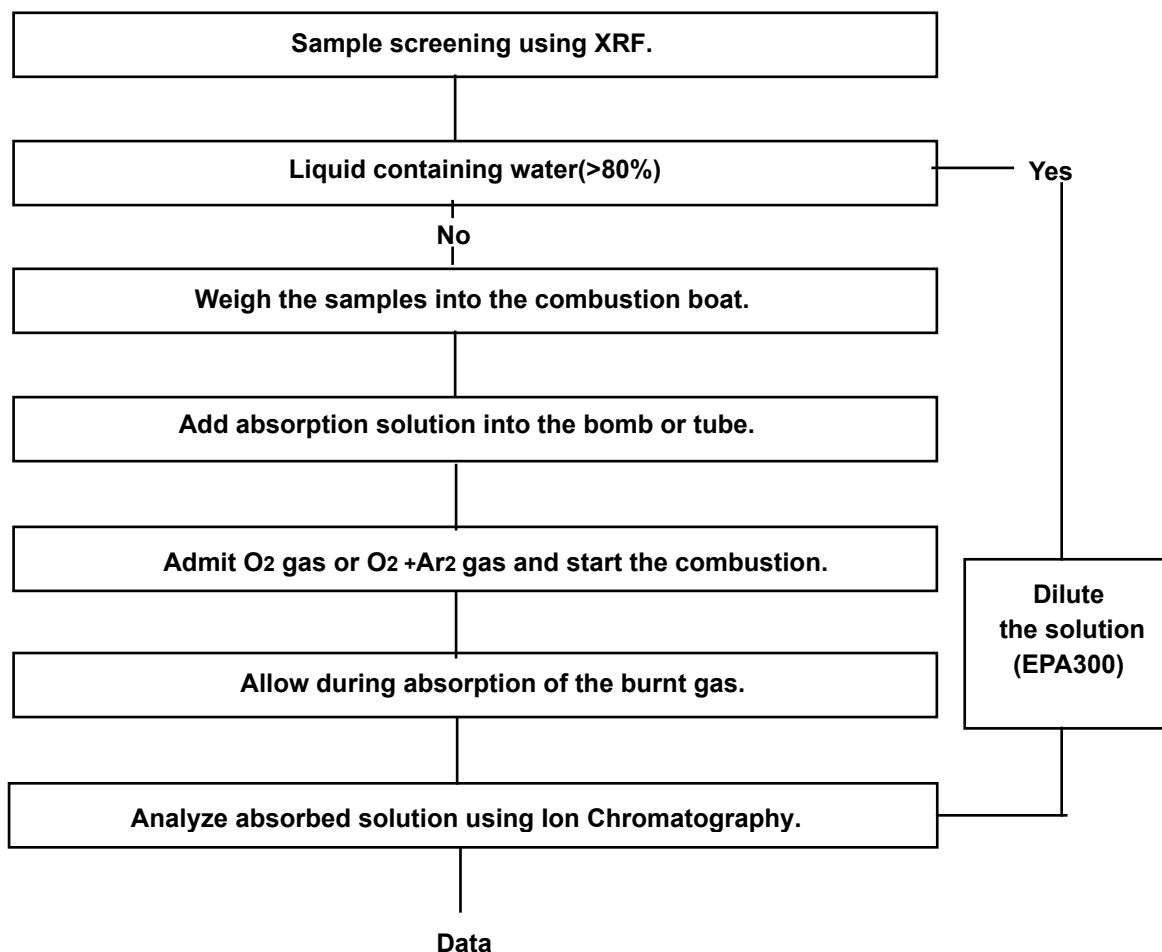
The samples were dissolved totally by pre-conditioning method according to above flow chart for Cd,Pb,Hg.
Section Chief : Gilsae Yi



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Flow Chart for Halogen Test



*** End of Report ***