



Test Report No. F690101/LF-CTSAYGU16-05861

Issued Date : 2016. 07. 25

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TCC STEEL CO., LTD.
100 Goedong-Ro, Nam-gu
Pohang-si, Gyeongbuk
Korea

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

SGS File No. : AYGU16-05861
Product Name : ET (Electrolytic Tinplate)
Item No./Part No. : N/A
Received Date : 2016. 07. 20
Test Period : 2016. 07. 20 to 2016. 07. 25
Test Results : For further details, please refer to following page(s)

SGS Korea Co., Ltd.
/ Gimhae Laboratory

Thomas Hwang / Lab Manager

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Sample No. : AYGU16-05861.001
Sample Description : ET (Electrolytic Tinplate)
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) * | µg/cm ² | With reference to IEC 62321-7-1:2015 (Determination of CrVI by UV-Vis) | 0.1 | N.D. |

Flame Retardants-PBBs/PBDEs

| Test Items | Unit | Test Method | MDL | Results |
|-------------------------|-------|---|-----|---------|
| Monobromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Dibromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Tribromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Tetrabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Pentabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Hexabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Heptabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Octabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Nonabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Decabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Monobromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Dibromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Tribromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| | | | | |

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Sample No. : AYGU16-05861.001
Sample Description : ET (Electrolytic Tinplate)
Item No./Part No. : N/A
Materials : N/A

Flame Retardants-PBBs/PBDEs

| Test Items | Unit | Test Method | MDL | Results |
|--------------------------|-------|---|-----|---------|
| Tetrabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Pentabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Hexabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Heptabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Octabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Nonabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |
| Decabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS) | 5 | N.D. |

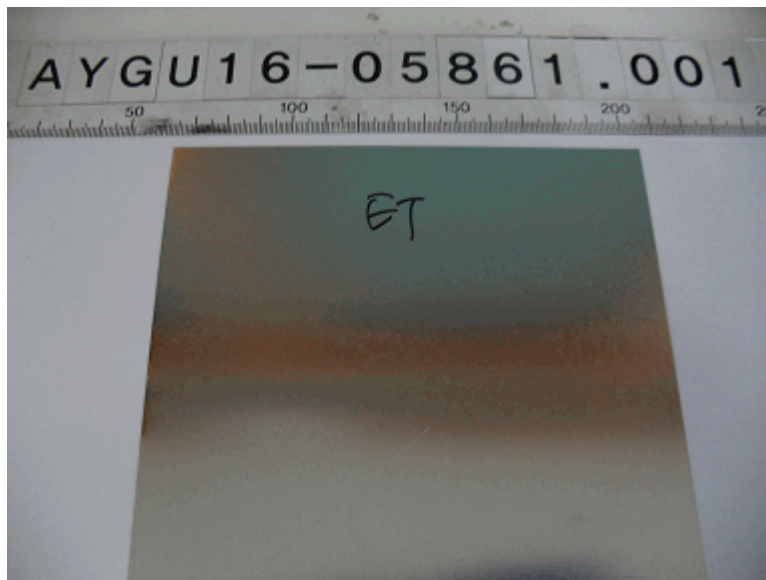
Halogen Contents

| Test Items | Unit | Test Method | MDL | Results |
|--------------|-------|--------------------|-----|---------|
| Bromine(Br) | mg/kg | EN 14582:2007 , IC | 30 | N.D. |
| Chlorine(Cl) | mg/kg | EN 14582:2007 , IC | 30 | N.D. |
| Fluorine(F) | mg/kg | EN 14582:2007 , IC | 30 | N.D. |
| Iodine(I) | mg/kg | EN 14582:2007 , IC | 50 | 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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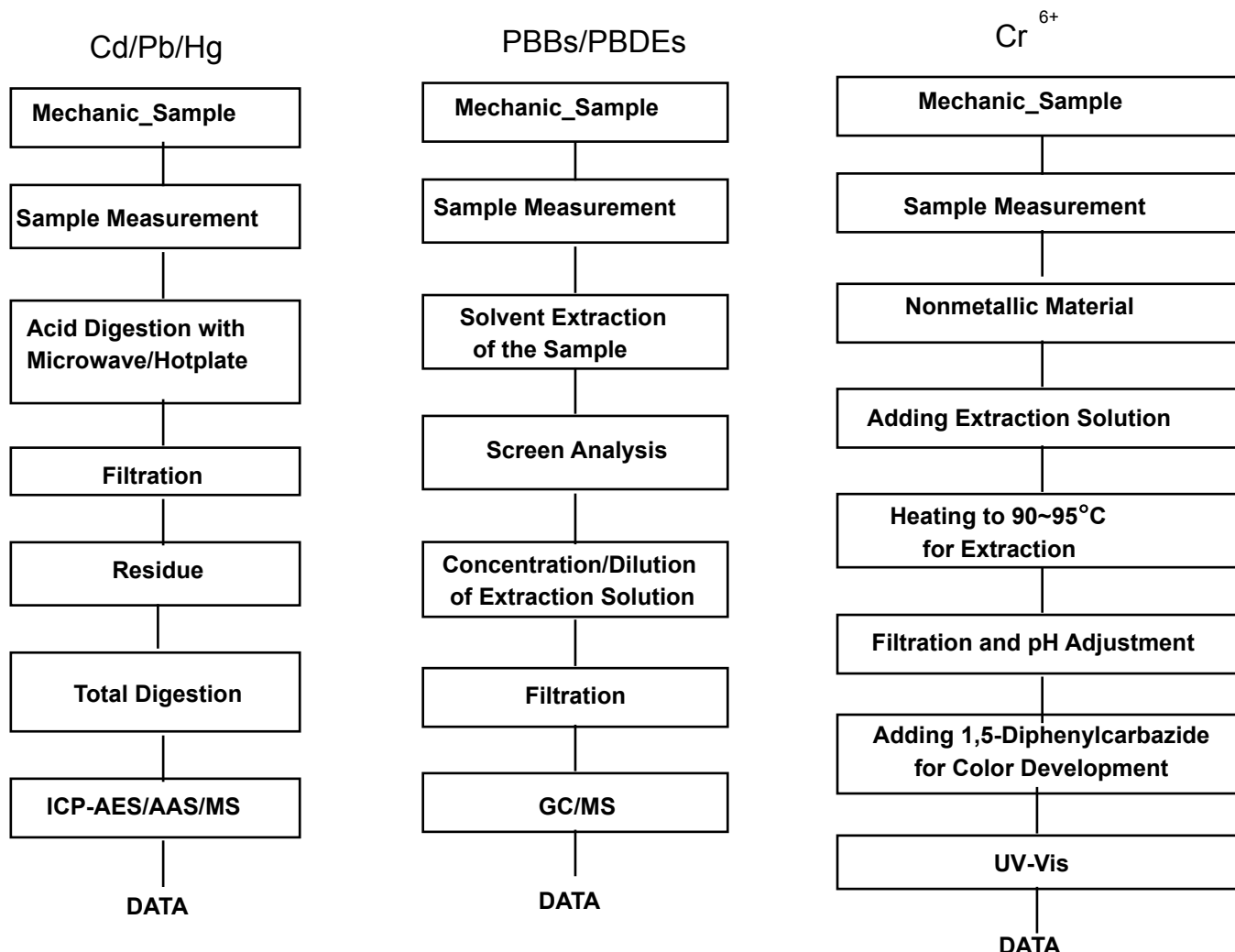
Picture of Sample as Received:



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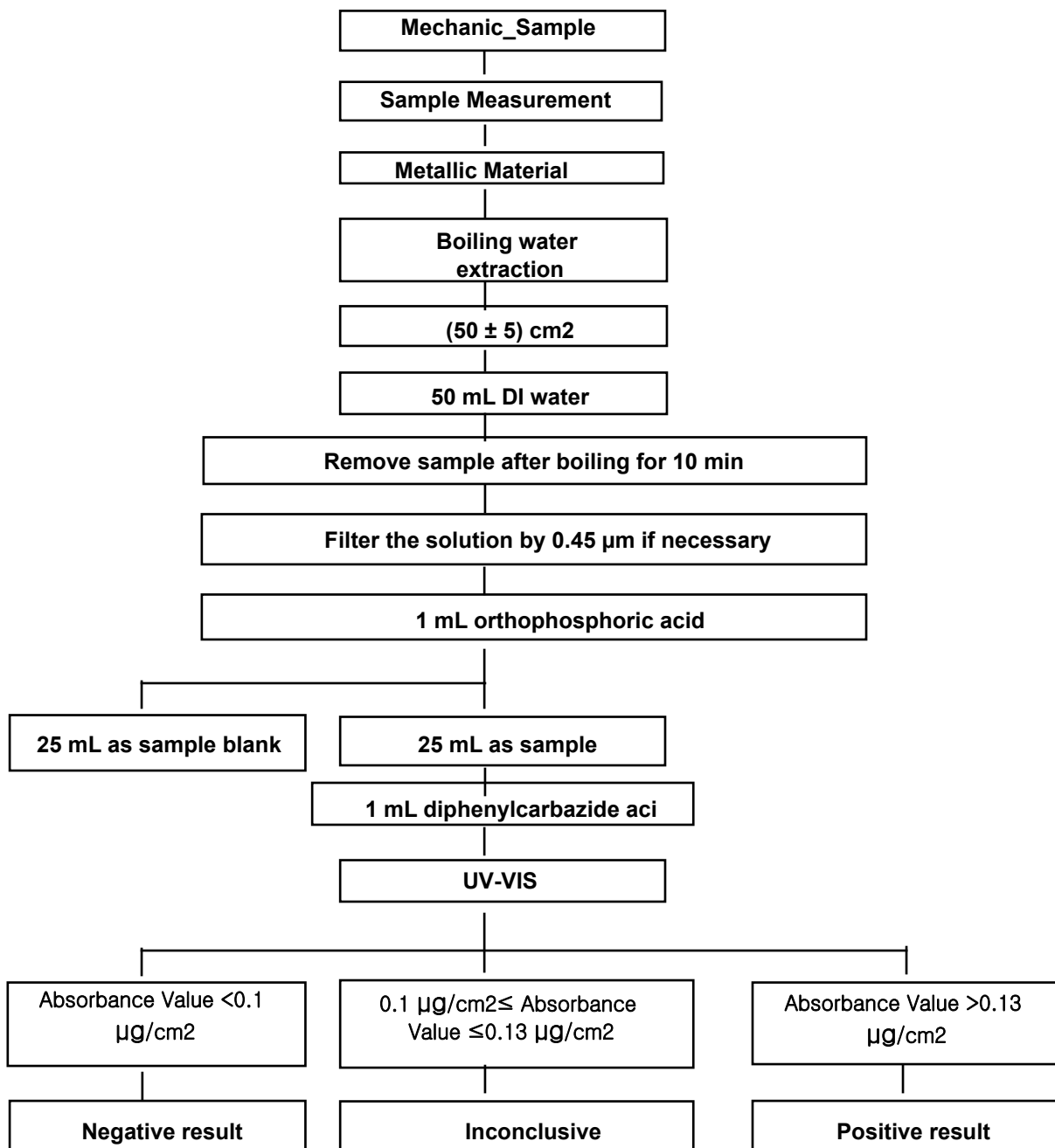
Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr⁶⁺ /PBBs&PBDEs Testing



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



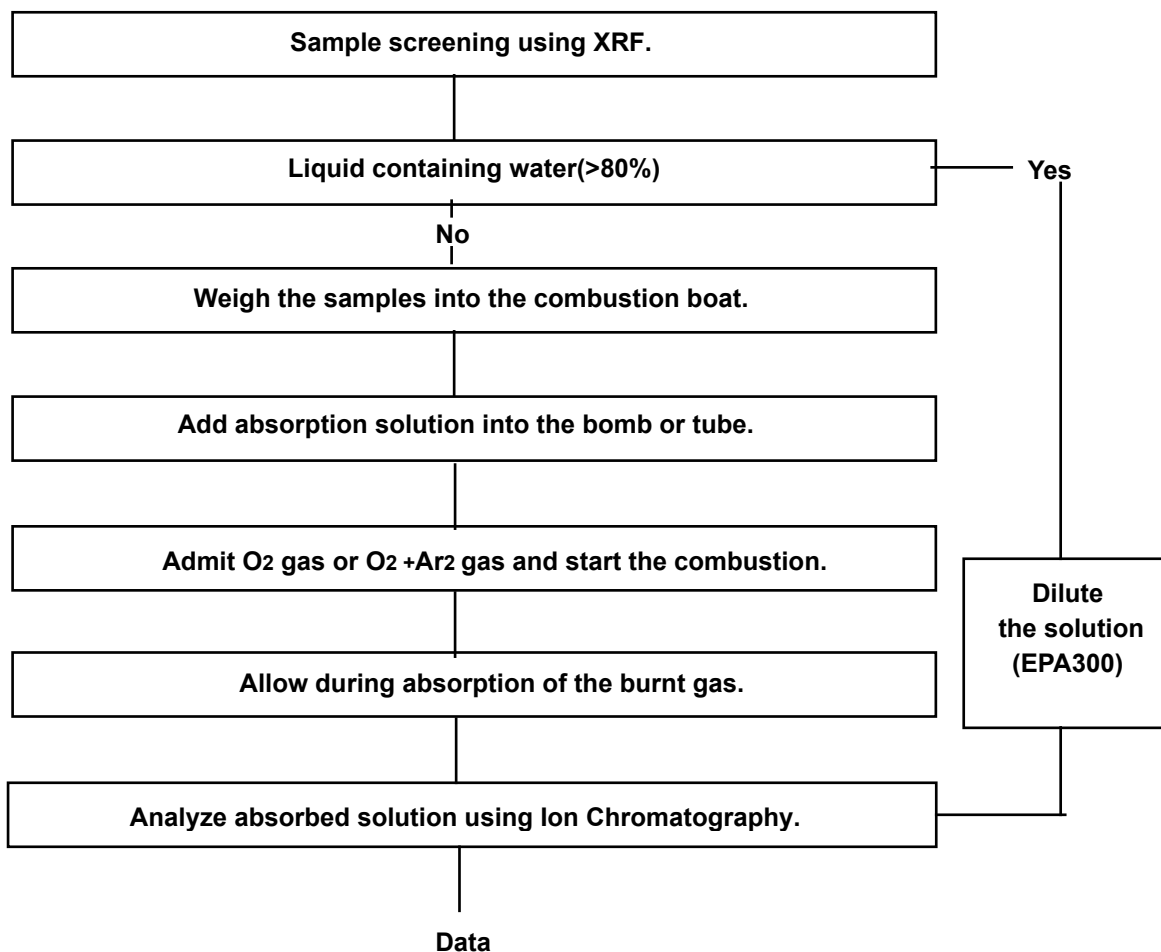
Cr⁶⁺



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Flow Chart for Halogen Test



*** End of Report ***