



Test Report No. F690101/LF-CTSAYAA20-27763

Issued Date : 2020. 05. 12

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LG MMA CORP.

58, Yeosusandan-4ro
Yeosu-si, Chungnam
Korea



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

SGS File No. : AYAA20-27763
Product Name : IH830HR
Item No./Part No. : N/A
Received Date : 2020. 05. 04
Test Period : 2020. 05. 04 to 2020. 05. 12
Test Results : For further details, please refer to following page(s)

SGS Korea Co., Ltd.

Tommy Oh / Chemical Lab Mgr

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Sample No. : AYAA20-27763.001
Sample Description : IH830HR
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 62321-7-2:2017, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis and Microwave system and /or with reference to IEC 62321-5:2013, determination of Chromium by ICP-OES. | 8 | N.D. |

Flame Retardants-PBBs/PBDEs

| Test Items | Unit | Test Method | MDL | Results |
|--------------------------|-------|--|-----|---------|
| Monobromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Dibromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Tribromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Tetrabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Pentabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Hexabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Heptabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Octabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Nonabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Decabromobiphenyl | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Monobromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Dibromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Tribromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Tetrabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Pentabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Hexabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Heptabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Octabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Nonabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |
| Decabromodiphenyl ether | mg/kg | With reference to IEC 62321-6:2015 (GC-MS) | 5 | N.D. |

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Sample No. : AYAA20-27763.001
Sample Description : IH830HR
Item No./Part No. : N/A
Materials : N/A

Phthalates

| Test Items | Unit | Test Method | MDL | Results |
|------------------------------------|-------|--|-----|---------|
| Di-(2-ethylhexyl) phthalate (DEHP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-butyl phthalate (DBP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Benzyl butyl phthalate (BBP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-isobutyl phthalate (DIBP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-isodecyl phthalate (DIDP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-isononyl phthalate (DINP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-n-octyl phthalate (DNOP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-ethyl phthalate (DEP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |
| Di-methyl phthalate (DMP) | mg/kg | With reference to IEC 62321-8 ; 2017 , GC/MS | 50 | N.D. |

Halogen Content

| Test Items | Unit | Test Method | MDL | Results |
|--------------|-------|-------------------------------------|-----|---------|
| Bromine(Br) | mg/kg | With reference to EN 14582:2016, IC | 30 | N.D. |
| Chlorine(Cl) | mg/kg | With reference to EN 14582:2016, IC | 30 | N.D. |

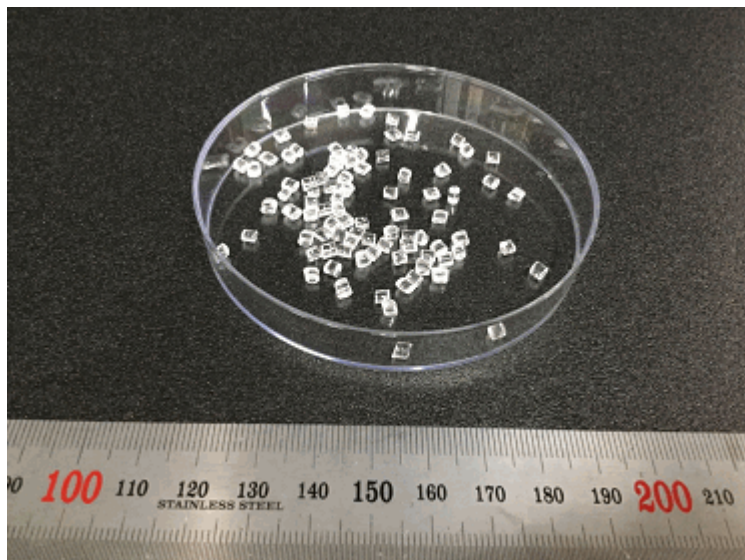
Flame Retardants

| Test Items | Unit | Test Method | MDL | Results |
|--------------------------------|-------|--------------------|-----|---------|
| Hexabromocyclododecane (HBCDD) | mg/kg | USEPA 3540C, LC/MS | 5 | N.D. |

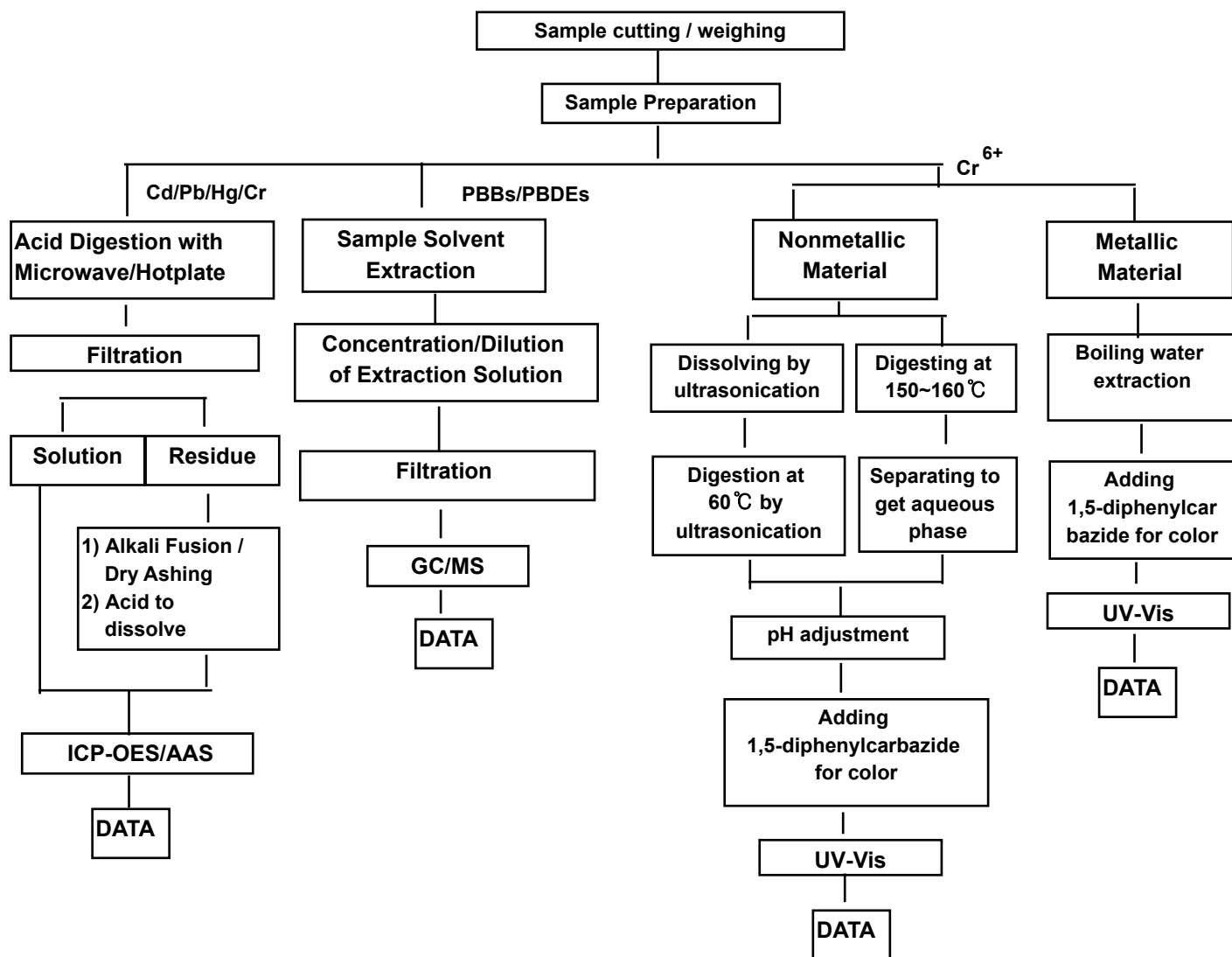
NOTE: (1) N.D. = Not detected.(<MDL)
(2) mg/kg = ppm
(3) MDL = Method Detection Limit
(4) - = No regulation
(5) Negative = Undetectable / Positive = Detectable
(6) ** = Qualitative analysis (No Unit)
(7) * = a. The result of Hexavalent Chromium (Cr(VI)) is "ND" as the result of Chromium (Cr) is "ND", and confirmation test of Hexavalent Chromium (Cr(VI)) is not required.
b. If the Chromium (Cr) content is greater than the MDL of Hexavalent Chromium (Cr(VI)), confirmation test of Hexavalent Chromium (Cr(VI)) is required.
(8) The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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Picture of Sample as Received:


AYAA20-27763.001

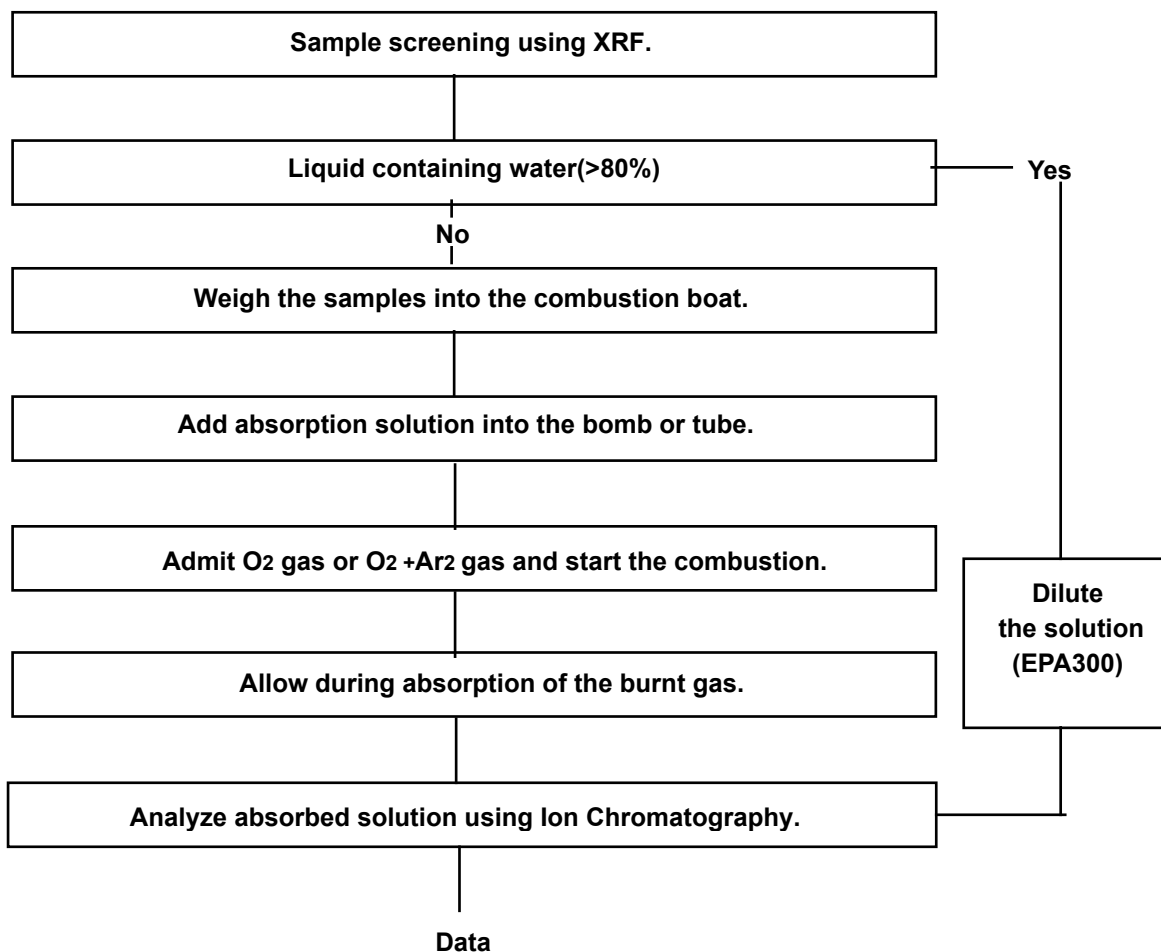
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Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr⁶⁺ /PBBs&PBDEs Testing


The samples were dissolved totally at the acid digestion step of the above flow chart for Cd,Pb,Hg
 Section Chief : Timothy Jeon



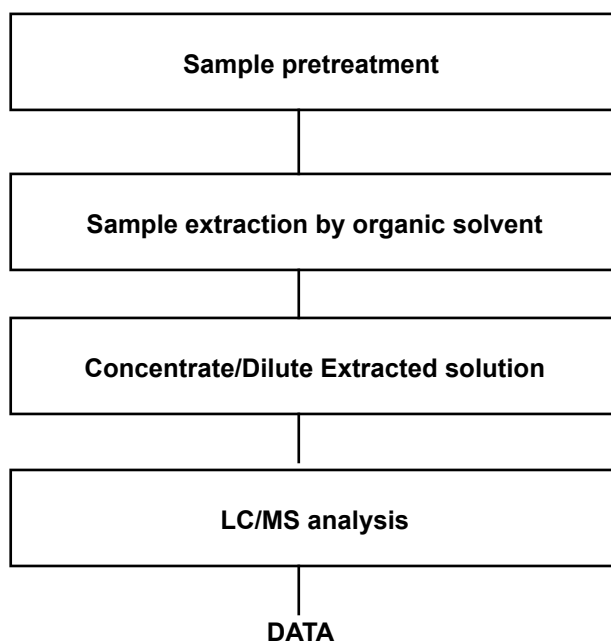
Flow Chart for Halogen Test



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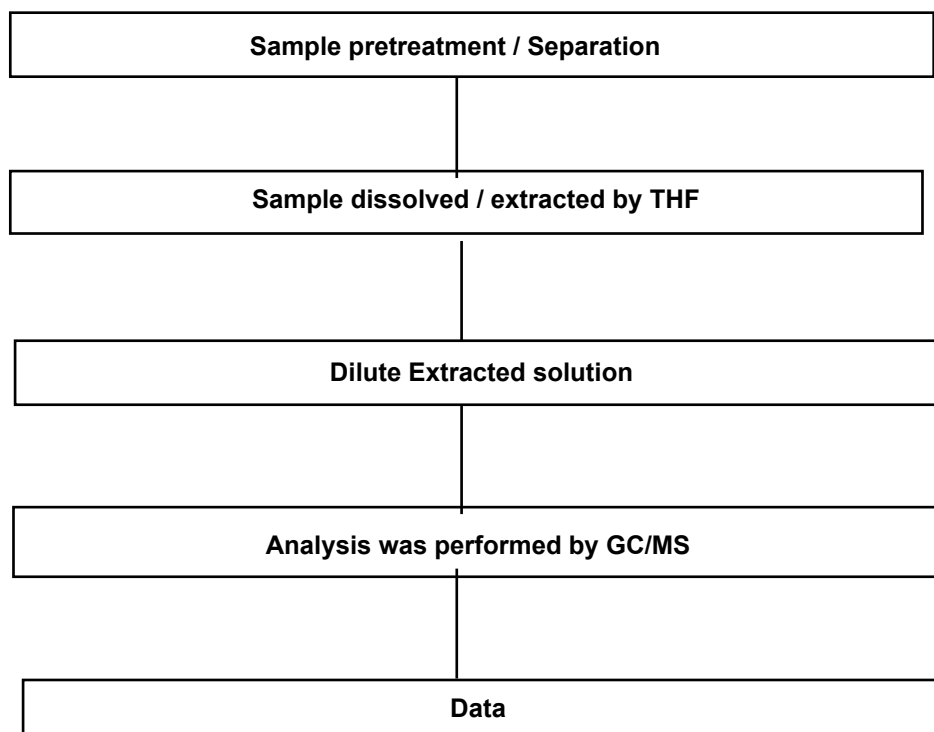
Testing Flow Chart for HBCD



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Flow Chart for Phthalate Test



*** End of Report ***

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