

Issued Date : 2023. 12. 13

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HAESUNGDS CO., LTD.

(Seongju-dong) 726 Ungnam-ro, Seongsan-gu Changwon-si, Gyeongnam Korea

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

| SGS File No. Product Name | : AYGA23-05005 : Au Plating |
|------------------------------|---|
| Item No./Part No. | : N/A |
| Received Date | <u>:</u> 2023. 12. 07 |
| Test Period | : 2023. 12. 07 to 2023. 12. 13 |
| Test Comments | : By the applicant's specific request, the sampling and testing was performed only for the part indicated in the photo without disassembly. |
| Test Results | : For further details, please refer to following page(s) |

annyPorte Tonny Park Billy Oh

Toning Fark

Technical Manager / SGS Korea Co., Ltd

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| Sample No. | : AYGA23-05005.001 |
|--------------------|--------------------|
| Sample Description | : Au Plating |
| Item No./Part No. | : N/A |
| Materials | : Metal Alloy |

Heavy Metals

| Test Items | Unit | Test Method | MDL | Results |
|------------------------------|--------|--|-----|---------|
| Cadmium (Cd) | mg/kg | With reference to IEC 62321-5 : 2013, by ICP-OES | 0.5 | N.D. |
| Lead (Pb) | mg/kg | With reference to IEC 62321-5 : 2013, by ICP-OES | 5 | N.D. |
| Mercury (Hg) | mg/kg | With reference to IEC 62321-4 : 2013+AMD1:2017CSV, by ICP-OES | 2 | N.D. |
| Hexavalent Chromium (Cr VI)* | µg/cm² | With reference to IEC 62321-7-1 : 2015, by UV-Vis | 0.1 | N.D. |

Total Metals

| Test Items | Unit | Test Method | MDL | Results |
|----------------|-------|---|-----|---------|
| Antimony (Sb) | mg/kg | With reference to EPA 3052 : 1996, EPA 6010D : 2018, by ICP-OES | 10 | N.D. |
| Beryllium (Be) | mg/kg | With reference to EPA 3052 : 1996, EPA 6010D : 2018, by ICP-OES | 5 | N.D. |
| Arsenic (As) | mg/kg | With reference to EPA 3052 : 1996, EPA 6010D : 2018, by ICP-OES | 10 | N.D. |

Flame Retardants-PBBs/PBDEs

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



| Sample No. | : AYGA23-05005.001 |
|--------------------|--------------------|
| Sample Description | : Au Plating |
| Item No./Part No. | : N/A |
| Materials | : Metal Alloy |

Flame Retardants-PBBs/PBDEs

| Test Items | Unit | Test Method | MDL | Results |
|--------------------------|-------|--|-----|---------|
| Hexabromodiphenyl ether | mg/kg | With reference to IEC 62321-6 : 2015, by GC-MS | 5 | N.D. |
| Heptabromodiphenyl ether | mg/kg | With reference to IEC 62321-6 : 2015, by GC-MS | 5 | N.D. |
| Octabromodiphenyl ether | mg/kg | With reference to IEC 62321-6 : 2015, by GC-MS | 5 | N.D. |
| Nonabromodiphenyl ether | mg/kg | With reference to IEC 62321-6 : 2015, by GC-MS | 5 | N.D. |
| Decabromodiphenyl ether | mg/kg | With reference to IEC 62321-6 : 2015, by GC-MS | 5 | N.D. |

| Test Items | Unit | Test Method | MDL | Results |
|--|-------|--|-----|---------|
| Di-butyl phthalate (DBP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Benzyl butyl phthalate (BBP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-(2-ethylhexyl) phthalate (DEHP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-isobutyl phthalate (DIBP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| [di(C6-C8 alkyl)phthalate] branched (DIHP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| [di(C7-C11 alkyl)phthalate] linear and branched (DHNUP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Bis(2-methoxyethyl) phthalate (BMP, BMEP, DMEP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-isononyl phthalate (DINP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-isodecyl phthalate (DIDP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-n-octyl phthalate (DNOP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-n-hexyl phthalate (DNHP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| Di-n-pentyl phthalate(DPP, DnPP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |

Chlorinated Paraffin

Phthalates

| Test Items | Unit | Test Method | MDL | Results |
|---|-------|--|-----|---------|
| Alkanes, C10~13, Short Chain Chlorinated Paraffins(SCCP) | mg/kg | With reference to ISO 18219, by CI-GC-MS | 50 | N.D. |

Chlorinated Organic Substances

| Test Items | Unit | Test Method | MDL | Results |
|-----------------------------------|-------|---|-----|---------|
| Polychlorinated Naphthalene (PCN) | mg/kg | With reference to US EPA 8081 A(US EPA 3550C), by GC/MS | 5 | N.D. |

PCBs & PCTs

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| Sample No. | : AYGA23-05005.001 |
|--------------------|--------------------|
| Sample Description | : Au Plating |
| Item No./Part No. | : N/A |
| Materials | : Metal Alloy |

PCBs & PCTs

| Test Items | Unit | Test Method | MDL | Results |
|-----------------------------------|-------|---|-----|---------|
| Polychlorinated Biphenyls (PCBs) | mg/kg | With reference to US EPA 8082,(US EPA 3550C), by GC/MS | 3 | N.D. |
| Polychlorinated terphenyls (PCTs) | mg/kg | With reference to US EPA 8082,(US EPA 3550C), by GC/MS | 3 | N.D. |

Polymer Identification

| Test Items | Unit | Test Method | MDL | Results |
|------------|------|-------------|-----|----------|
| PVC | ** | FT-IR | - | Negative |

Halogen Content

| Test Items | Unit | Test Method | MDL | Results |
|--------------|-------|---|-----|---------|
| Bromine(Br) | mg/kg | With reference to BS EN 14582 : 2016, by IC | 30 | N.D. |
| Chlorine(Cl) | mg/kg | With reference to BS EN 14582 : 2016, by IC | 30 | N.D. |
| Fluorine(F) | mg/kg | With reference to BS EN 14582 : 2016, by IC | 30 | N.D. |
| lodine(I) | mg/kg | With reference to BS EN 14582 : 2016, by IC | 50 | N.D. |

Organotin Compounds

| Test Items | Unit | Test Method | MDL | Results |
|--------------------------|-------|------------------------------------|------|---------|
| Tributyltin (TBT) | mg/kg | With reference to ISO 17353, GC/MS | 0.02 | N.D. |
| Triphenyltin (TPhT) | mg/kg | With reference to ISO 17353, GC/MS | 0.02 | N.D. |
| Dibutyltin (DBT) | mg/kg | With reference to ISO 17353, GC/MS | 0.02 | N.D. |
| Dioctyltin (DOT) | mg/kg | With reference to ISO 17353, GC/MS | 0.02 | N.D. |
| Tributyltin oxide (TBTO) | mg/kg | With reference to ISO 17353, GC/MS | 0.02 | N.D. |

PFAS (Per-and polyfluoroalkyl substances)

| Test Items | Unit | Test Method | MDL | Results |
|-------------------------------------|-------|---|-----|---------|
| Perfluorootanoic acid (PFOA) | µg/kg | with reference to CEN/TS 15968 :2010, HPLC/MS/MS | 10 | N.D. |
| Perfluorooctanesulfonic Acid (PFOS) | µg/kg | with reference to CEN/TS 15968 :2010, HPLC/MS/MS | 10 | N.D. |

Flame Retardants

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

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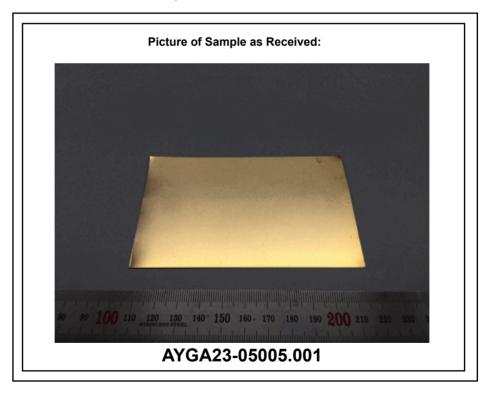
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| Sample No. | : AYGA23-05005.001 |
|--------------------|--------------------|
| Sample Description | : Au Plating |
| Item No./Part No. | : N/A |
| Materials | : Metal Alloy |

NOTE: (1) N.D. = Not detected. (<MDL)

- (2) mg/kg = ppm, ug/kg = ppb, mg/L = ppm
- (3) MDL = Method Detection Limit
- (4) = No regulation
- (5) ** = Qualitative analysis (No Unit)
- (6) Negative = Undetectable / Positive = Detectable
- (7) * = a. The sample is positive for Cr VI if the Cr VI concentration is greater than 0.13 ug/cm2. The sample coating is considered to contain Cr VI.
 - b. The sample is negative for Cr VI if Cr VI is ND(concentration less than 0.10 ug/cm2). The coating is considered a non-Cr VI 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.
- (8) The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

This test report is not related to Korea Laboratory Accreditation Scheme.

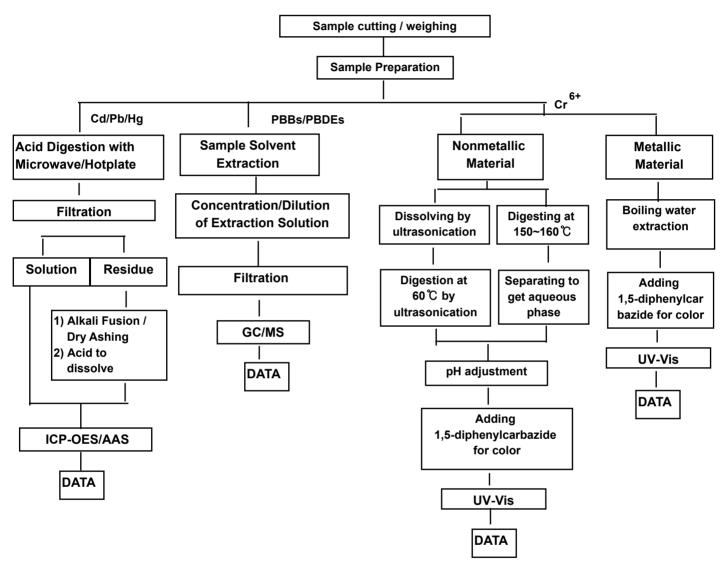


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Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr⁶⁺ /PBBs&PBDEs Testing



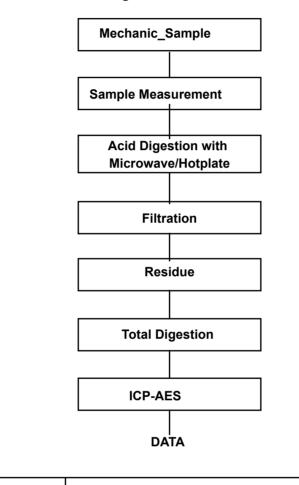
The samples were dissolved totally at the acid digestion step of the above flow chart for Cd,Pb,Hg Section Chief : Tonny Park

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Flow Chart for Inorganic Elements Testing

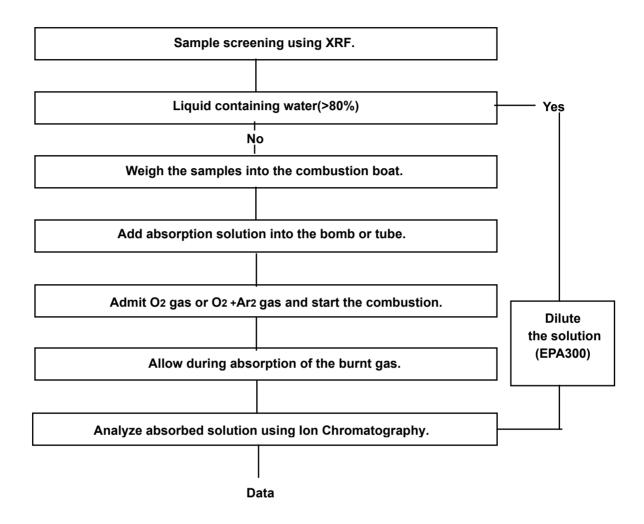
Inorganic Elements



| Major Inorganic | Antimony(Sb) , Beryllium(Be) , Phosphorus(P) , |
|-----------------|--|
| Heavy Metals | Arsenic(As) etc. |
| | |



Flow Chart for Halogen Test

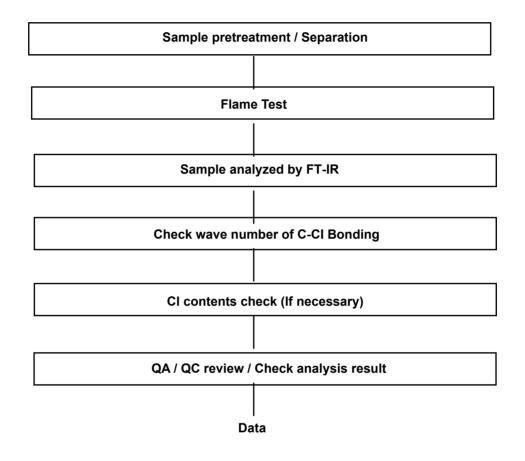


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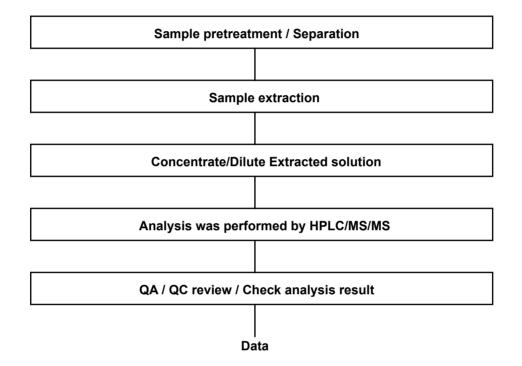


Flow Chart for PVC Test



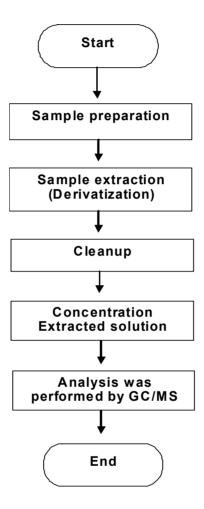


Flow Chart for PFOS/PFOA Test





Organotin Flow Chart

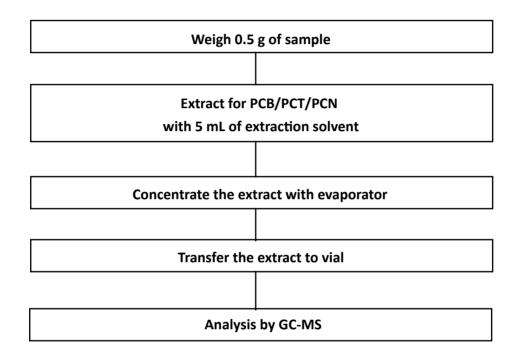


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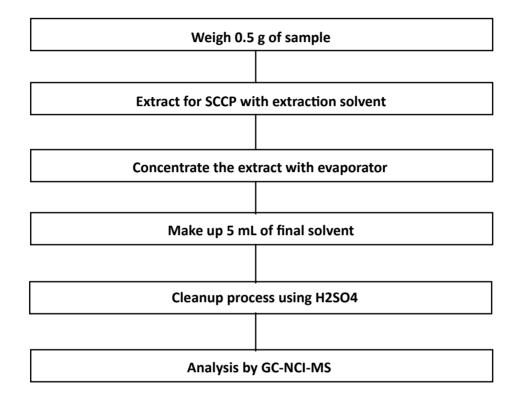


Flow Chart for (PCB/PCT/PCN)



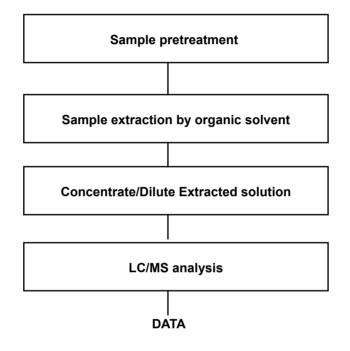


Flow Chart for SCCP



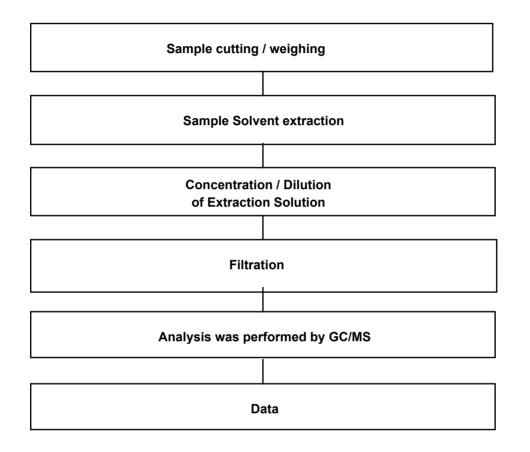


Testing Flow Chart for HBCD





Flow Chart for PhthalateTest



*** End of Report ***