



Test Report No. F690101/LF-CTSAYGU21-00795

Issued Date : 2021. 01. 27

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POONGSAN CORPORATION
94 Sanam-ro, Onsan-eup
Ulju-gun, Ulsan
Korea



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

SGS File No. : AYGU21-00795
Product Name : C1220
Item No./Part No. : Phosphorus-Deoxidized
Received Date : 2021. 01. 04
Test Period : 2021. 01. 04 to 2021. 01. 27
Conclusion : Based on the performed tests on selected part of submitted samples, the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
Test Results : For further details, please refer to following page(s)

SGS Korea Co., Ltd.
/ Busan Laboratory

Dongju Lee / Technical Manager

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MQP-708-001-F12 (00)

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Sample No. : AYGU21-00795.001
Sample Description : C1220
Item No./Part No. : Phosphorus-Deoxidized
Materials : N/A

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+A1 : 2017, by ICP-OES | 2 | N.D. |
| Hexavalent Chromium (Cr VI) * | µg/cm ² | With reference to IEC 62321-7-1 : 2015, by UV-Vis | 0.1 | N.D. |
| Antimony (Sb) | mg/kg | With reference to EPA 3052 : 1996,With reference to EPA 6010B : 1996, by ICP-OES | 10 | N.D. |
| Beryllium (Be) | mg/kg | With reference to EPA 3052 : 1996,With reference to EPA 6010B : 1996, by ICP-OES | 5 | 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. |
| 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. |

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MQP-708-001-F12 (00)

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Sample No. : AYGU21-00795.001
Sample Description : C1220
Item No./Part No. : Phosphorus-Deoxidized
Materials : N/A

Flame Retardants-PBBs/PBDEs

| Test Items | Unit | Test Method | MDL | Results |
|-------------------------|-------|--|-----|---------|
| 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. |

Phthalates

| Test Items | Unit | Test Method | MDL | Results |
|------------------------------------|-------|--|-----|---------|
| Di-(2-ethylhexyl) phthalate (DEHP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |
| 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-isobutyl phthalate (DIBP) | mg/kg | With reference to IEC 62321-8 : 2017, by GC-MS | 50 | N.D. |

Halogen Contents

| Test Items | Unit | Test Method | MDL | Results |
|--------------|-------|--|-----|---------|
| Bromine(Br) | mg/kg | With reference to ASTM D 7359-14a : 2014 by IC | 30 | N.D. |
| Chlorine(Cl) | mg/kg | With reference to ASTM D 7359-14a : 2014 by IC | 30 | N.D. |

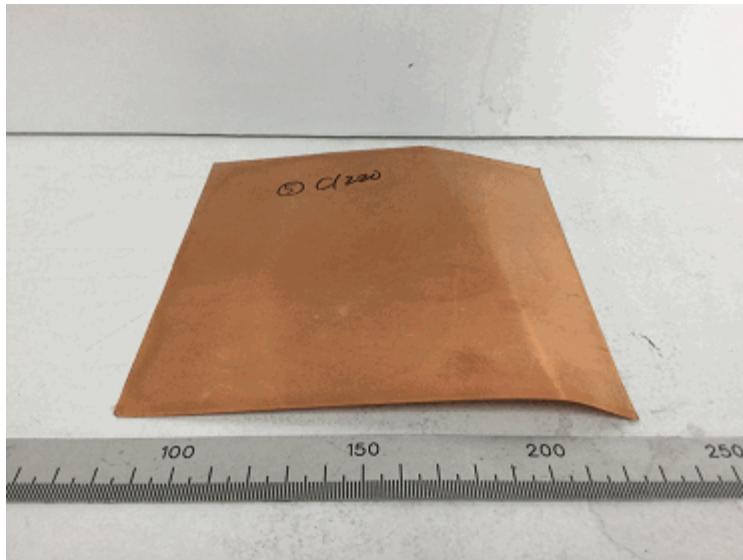
Other(s)

| Test Items | Unit | Test Method | MDL | Results |
|------------|-------|--|-----|---------|
| PFOA | µg/kg | With reference to CEN/TS 15968 : 2010, by LC-MS-MS | 10 | N.D. |
| PFOS | µg/kg | With reference to CEN/TS 15968 : 2010, by LC-MS-MS | 10 | N.D. |

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- NOTE:
- (1) N.D. = Not detected.(<MDL)
 - (2) mg/kg = ppm
 - (3) µg/kg = ppb
 - (4) MDL = Method Detection Limit
 - (5) - = No regulation
 - (6) Negative = Undetectable / Positive = Detectable
 - (7) ** = Qualitative analysis (No Unit)
 - (8) * = 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.
 - (9) 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 .

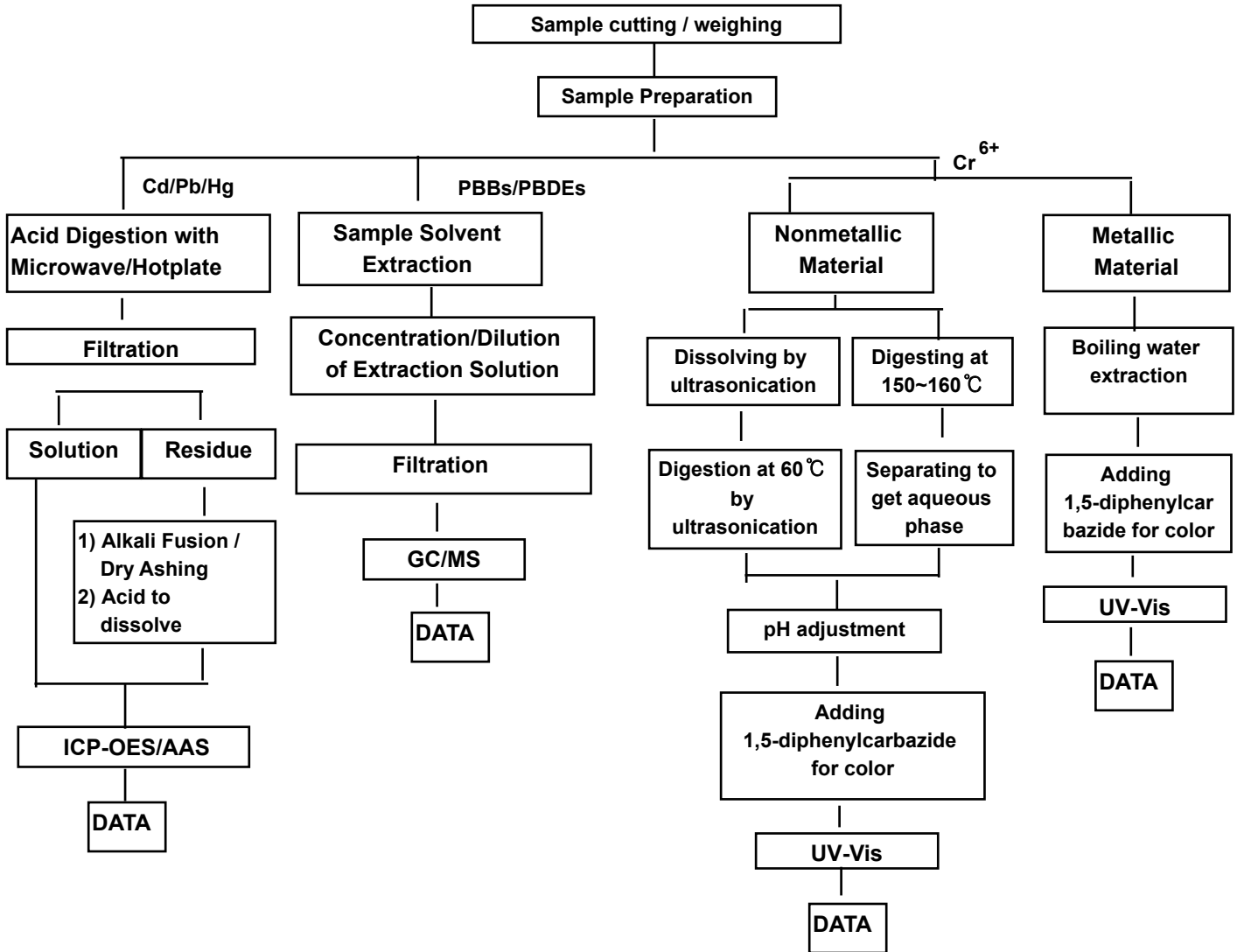
Picture of Sample as Received:



AYGU21-00795.001

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



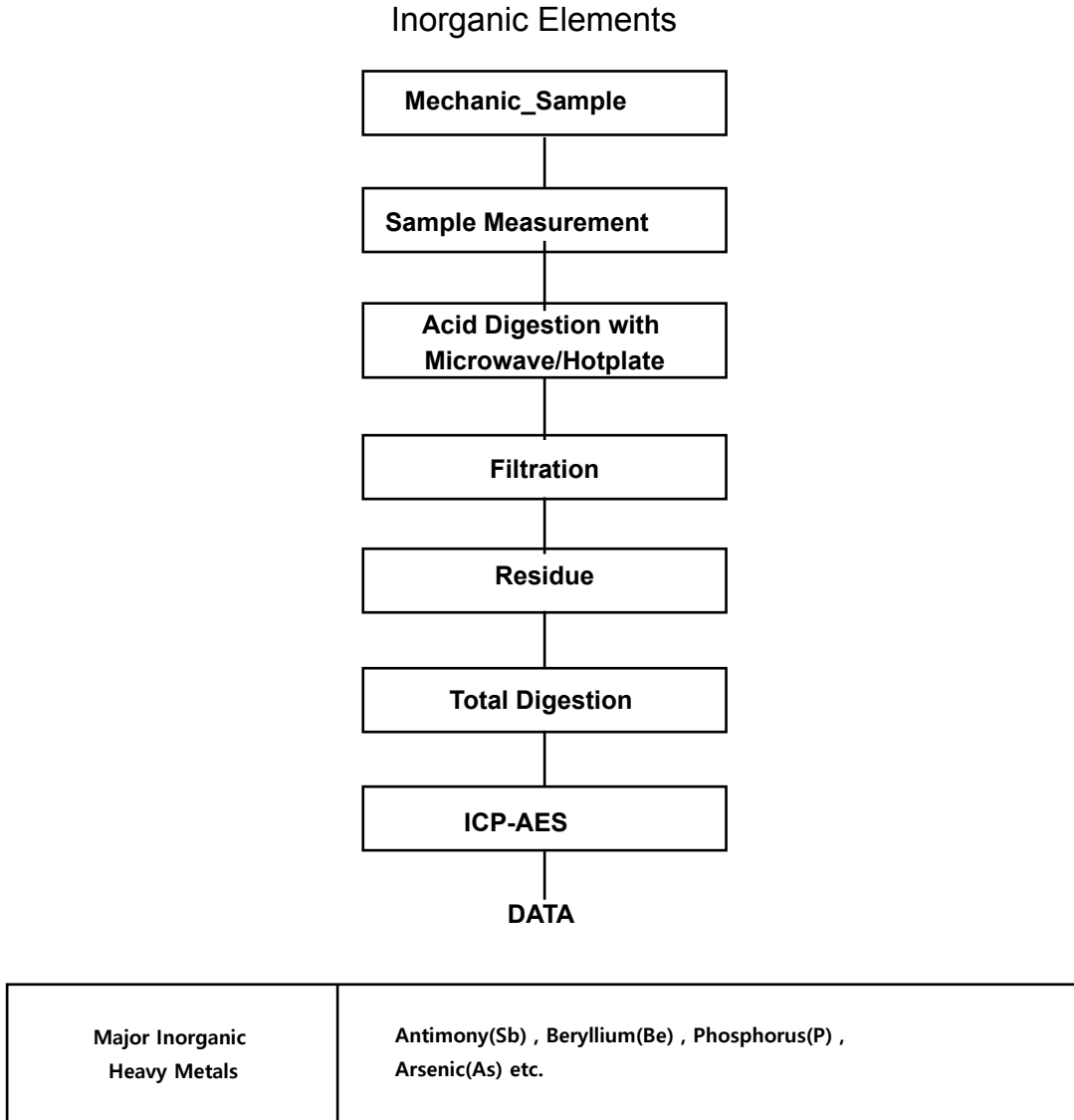
The samples were dissolved totally at the acid digestion step of the above flow chart for Cd,Pb,Hg

- Technician : Gihwan Kim/Sharpless Park/Taehee Kang
- Supervisor : Dongju Lee

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Flow Chart for Inorganic Elements Testing

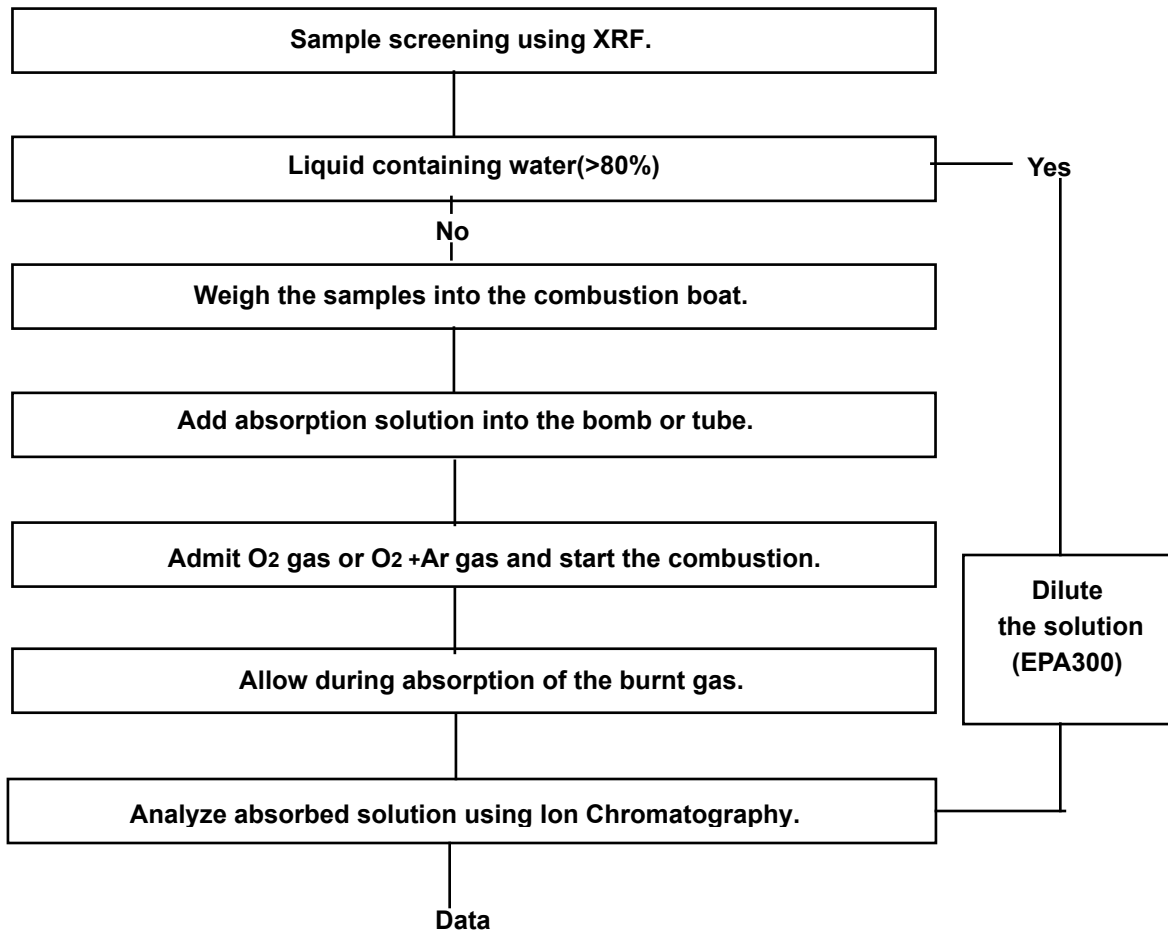


- Technician : Gihwan Kim
- Supervisor : Dongju Lee

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Flow Chart for Halogen Test

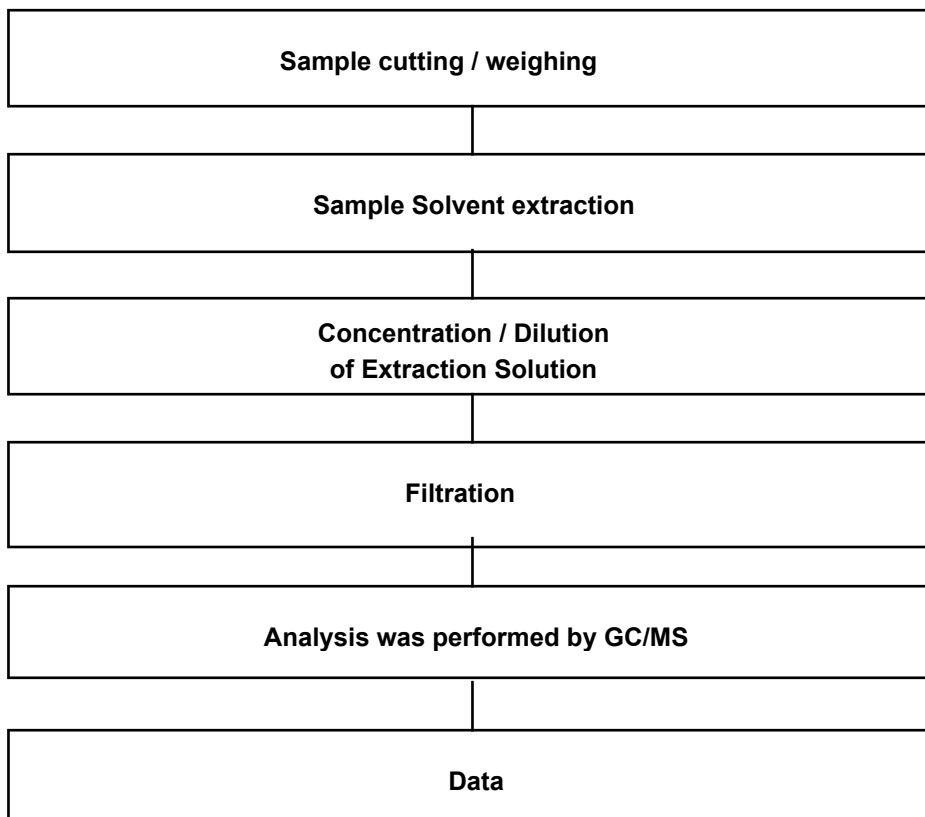


- Technician : Gihwan Kim
- Supervisor : Dongju Lee

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Flow Chart for Phthalate Test

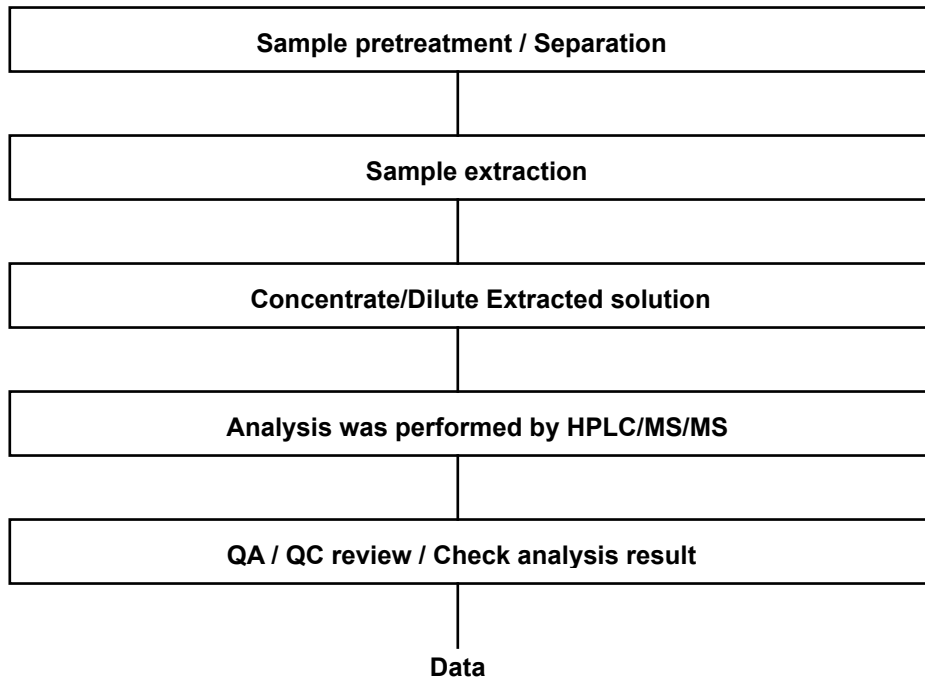


- Technician : Yukyung Park
- Supervisor : Dongju Lee

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Flow Chart for PFOS/PFOA Test



- Technician : Yukyung Park
- Supervisor : Dongju Lee

*** End of Report ***

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