

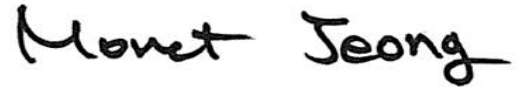
**SEOUL CHEMICAL RESEARCH LABORATORY CO., LTD.**

1MA 605-5 Shihwa Comp., 63 Gongdan 2-daero  
Siheung-si, Gyeonggi-do  
Korea



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

**SGS File No.** : AYAA24-39268  
**Product Name** : SPI-707 BLUE WITH SH-2  
**Item No./Part No.** : N/A  
**Client Reference Data** : SPI-707 BLUE TN WITH SH-2 TN, SPI-707 S BLUE TN WITH SH-2 TN,  
SPI-707 BLUE NT WITH SH-2 NT, SPI-707 L BLUE KC WITH SH-2 KC  
**Received Date** : 2024. 10. 28  
**Test Period** : 2024. 10. 28 to 2024. 11. 08  
**Report Comments** : By the applicant's request, item No.s/part No.s & client reference information are stated/added on report.  
**Test Results** : For further details, please refer to following page(s)



Monet Jeong

Technical Manager / SGS Korea Co., Ltd

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# Test Report No. F690101/LF-CTSAYAA24-39268

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Sample No. : AYAA24-39268.001  
Sample Description : SPI-707 BLUE WITH SH-2  
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, by ICP-OES	0.50	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)*	mg/kg	With reference to IEC 62321-7-2 : 2017, by UV-Vis and/or with reference to IEC 62321-5 : 2013, by ICP-OES	8	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.
Arsenic (As)	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.
Tin (Sn)	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.

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**Sample No.** : AYAA24-39268.001  
**Sample Description** : SPI-707 BLUE WITH SH-2  
**Item No./Part No.** : N/A  
**Materials** : N/A

**Flame Retardants-PBBs/PBDEs**

Test Items	Unit	Test Method	MDL	Results
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.
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.
Di-isodecyl phthalate (DIDP)	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-n-octyl phthalate (DNOP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.
Di-ethyl phthalate (DEP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.
Di-methyl phthalate (DMP)	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.
Di-iso-pentyl phthalate (DIPP)	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(C7-C11 alkyl)phthalate] linear and branched (DHNUP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.

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Sample No. : AYAA24-39268.001  
Sample Description : SPI-707 BLUE WITH SH-2  
Item No./Part No. : N/A  
Materials : N/A

## Phthalates

Test Items	Unit	Test Method	MDL	Results
[di(C6-C8 alkyl)phthalate] branched (DIHP)	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.
n-Pentyl-isopentyl phthalate (iPnPP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.

## Chlorinated Paraffin

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.
Alkanes, C14~17, Medium Chain Chlorinated Paraffins(MCCP)	mg/kg	With reference to ISO 18219, by CI-GC-MS	50	N.D.

## 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.

## 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	376
Fluorine(F)	mg/kg	With reference to BS EN 14582 : 2016, by IC	30	N.D.

## Organotin Compounds

Test Items	Unit	Test Method	MDL	Results
Dibutyltin (DBT)	mg/kg	with reference to ISO 17353:2004, by GC/MS	1	N.D.
Tributyltin (TBT)	mg/kg	with reference to ISO 17353:2004, by GC/MS	1	N.D.

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**Sample No.** : AYAA24-39268.001  
**Sample Description** : SPI-707 BLUE WITH SH-2  
**Item No./Part No.** : N/A  
**Materials** : N/A

**Organotin Compounds**

Test Items	Unit	Test Method	MDL	Results
Triphenyltin (TPhT)	mg/kg	with reference to ISO 17353:2004, by GC/MS	1	N.D.
Dioctyltin (DOT)	mg/kg	with reference to ISO 17353:2004, by GC/MS	1	N.D.

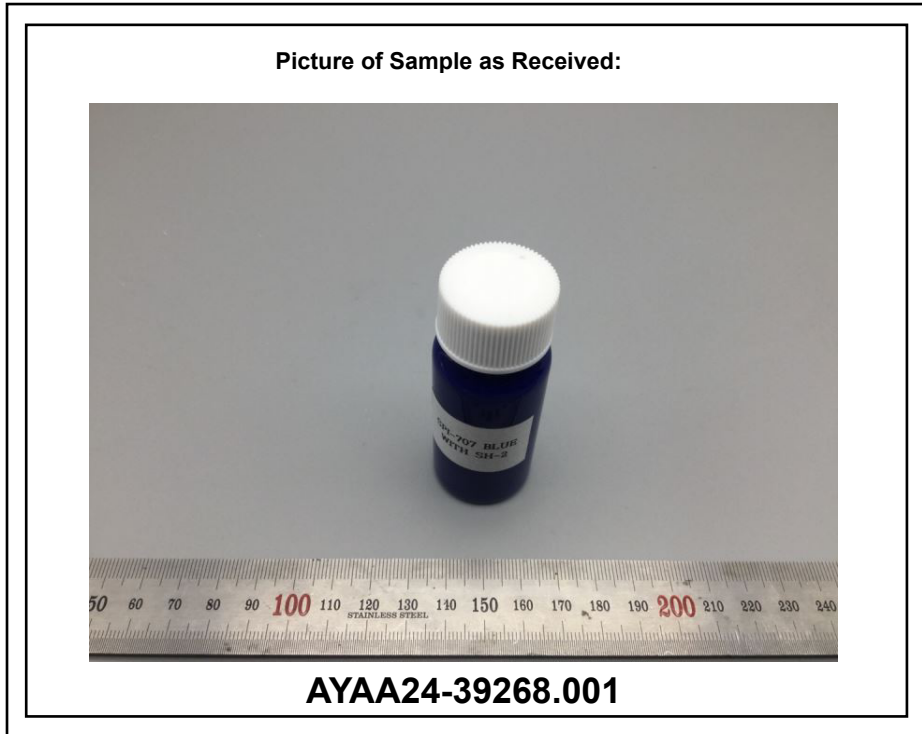
**Perfluorinated Compounds (PFCs)**

Test Items	Unit	Test Method	MDL	Results
Perfluorootanoic acid (PFOA)	mg/kg	with reference to CEN/TS 15968:2010, HPLC/MS/MS	0.1	N.D.
Perfluorooctane sulfonate (PFOS)	mg/kg	with reference to CEN/TS 15968:2010, HPLC/MS/MS	0.1	N.D.

**Flame Retardants**

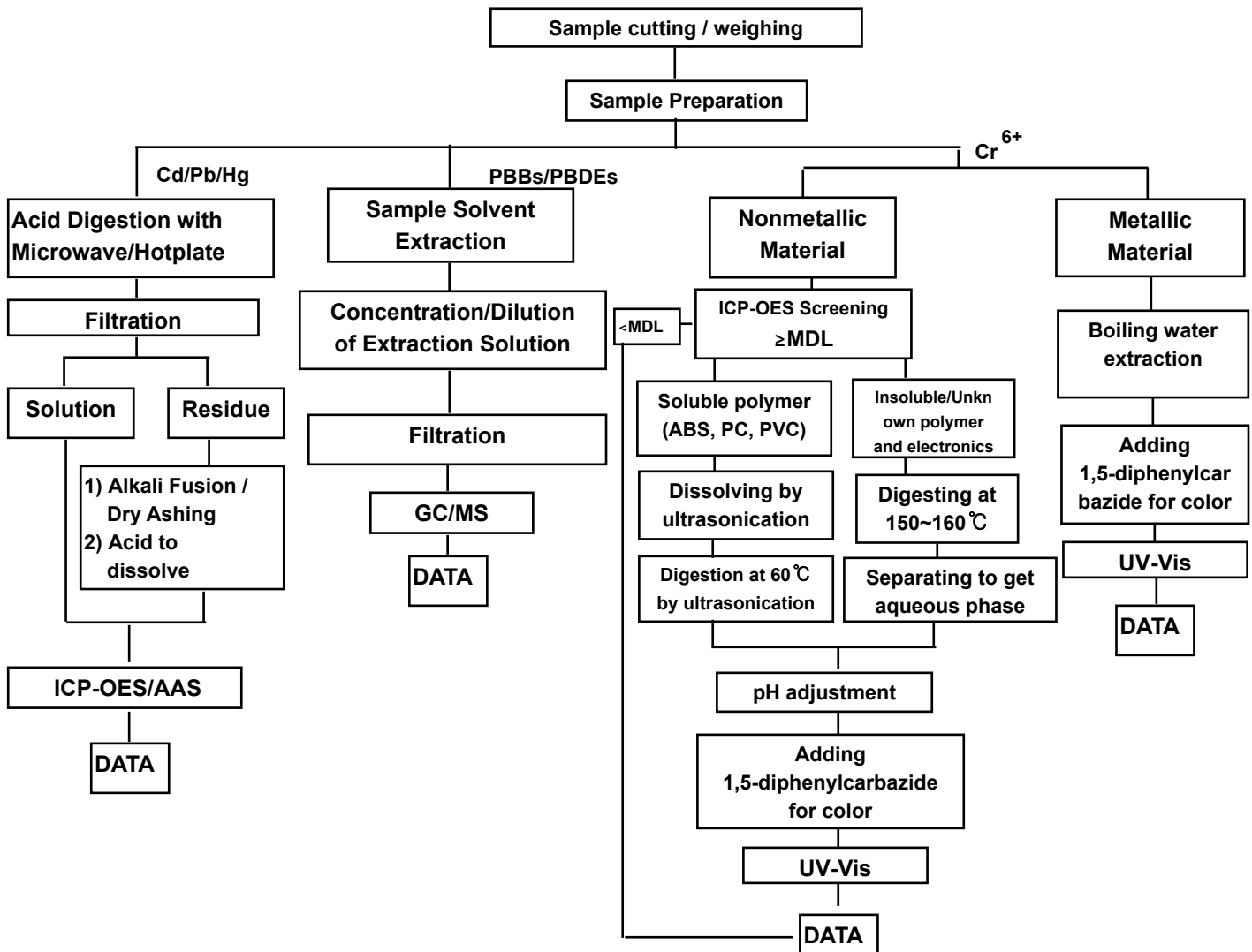
Test Items	Unit	Test Method	MDL	Results
Hexabromocyclododecane (HBCDD)	mg/kg	With reference to USEPA 3540 C, by LC/MS	5	N.D.

- 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 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 content of Total Chromium (Cr) is greater than the MDL of Hexavalent Chromium (Cr(VI)), it is the result of hexavalent Chromium by UV-VIS.



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### Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr<sup>6+</sup> /PBBs&PBDEs Testing

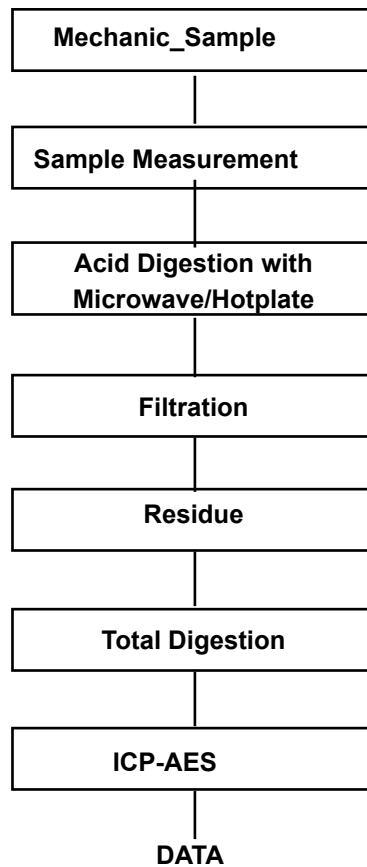


The samples were dissolved totally at the acid digestion step of the above flow chart for Cd,Pb,Hg  
 Section Chief : Hwangsik Kim

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### Flow Chart for Inorganic Elements Testing

#### Inorganic Elements

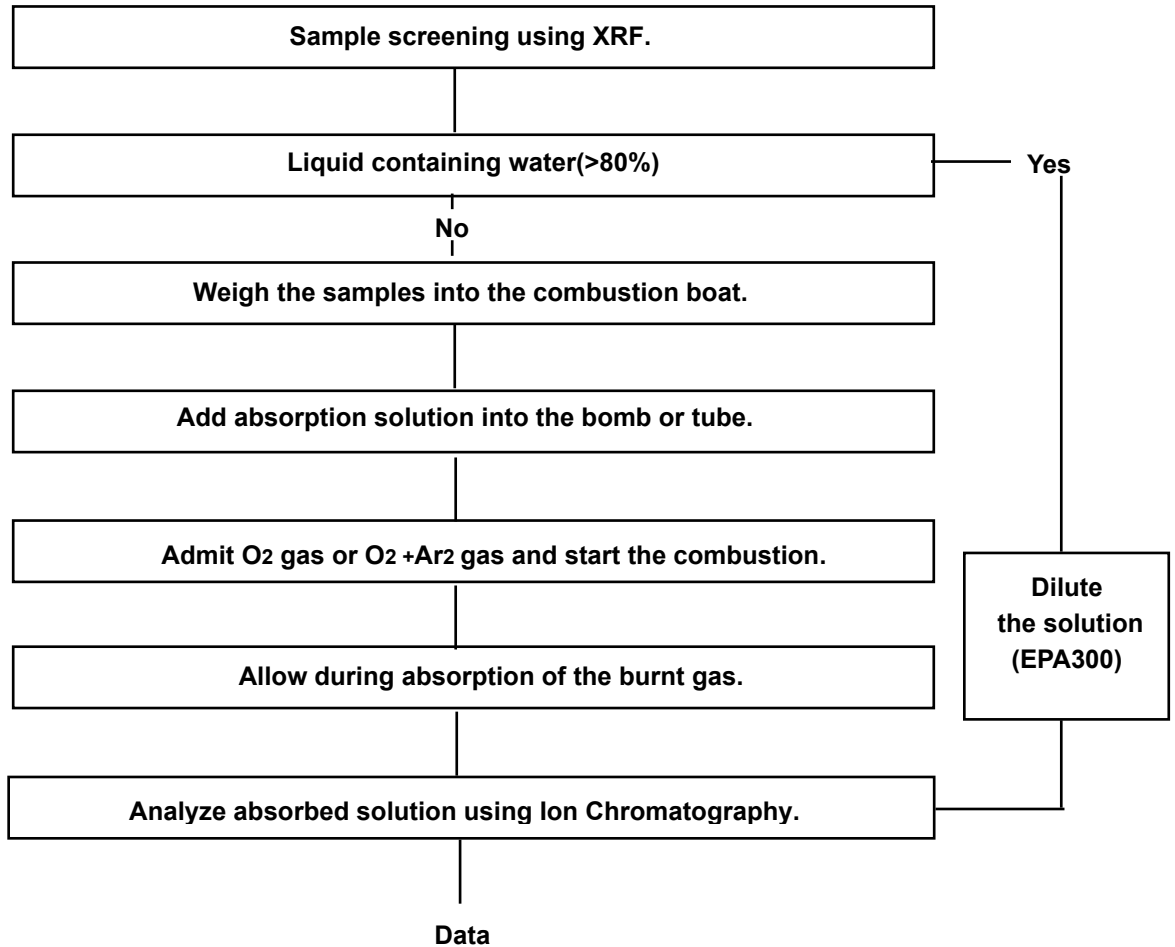


Major Inorganic Heavy Metals	Antimony(Sb) , Beryllium(Be) , Phosphorus(P) , Arsenic(As) etc.
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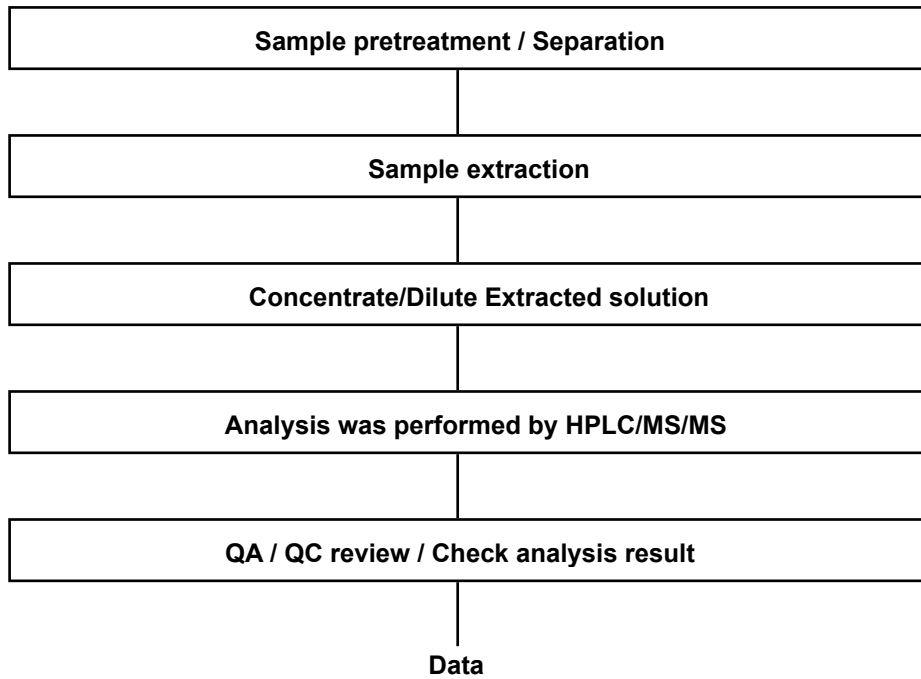


### Flow Chart for Halogen Test



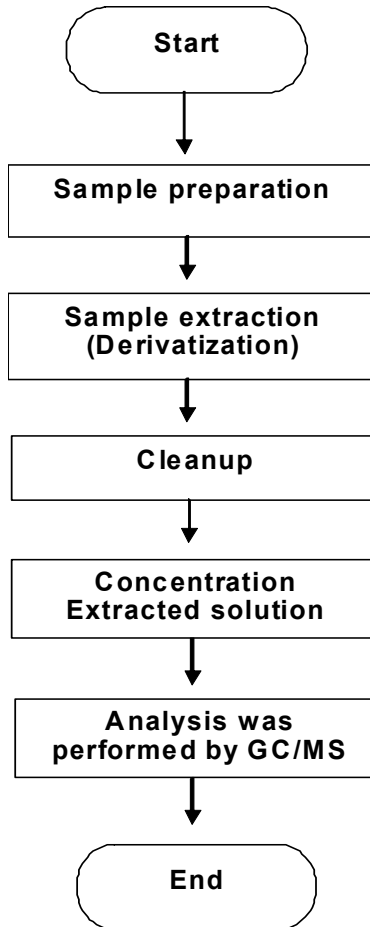
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### Flow Chart for PFOS/PFOA Test



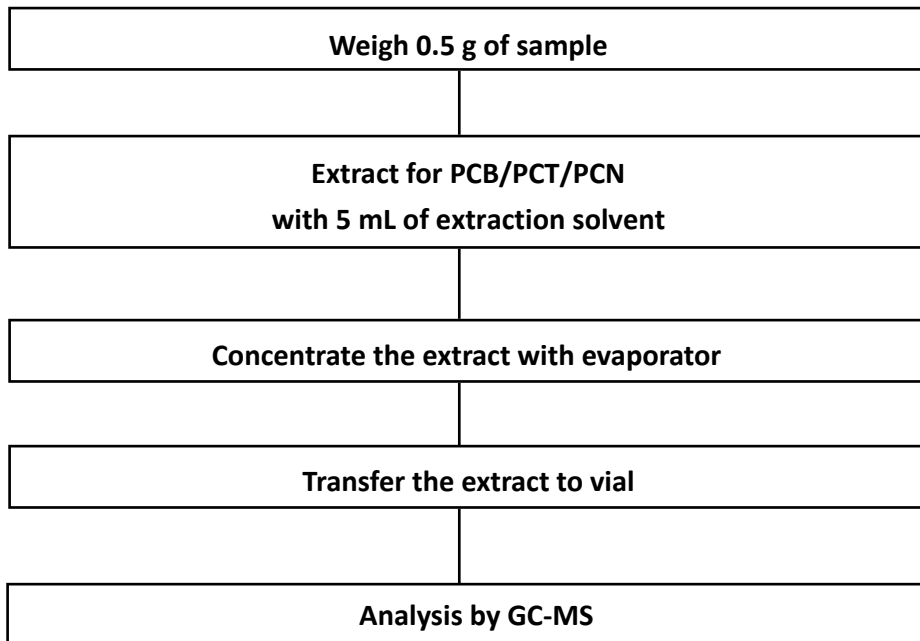
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### Organotin Flow Chart



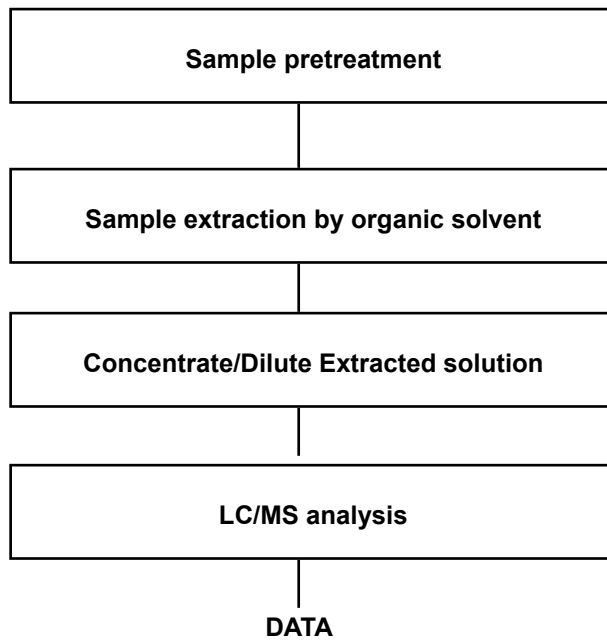
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### Flow Chart for (PCB/PCT/PCN)



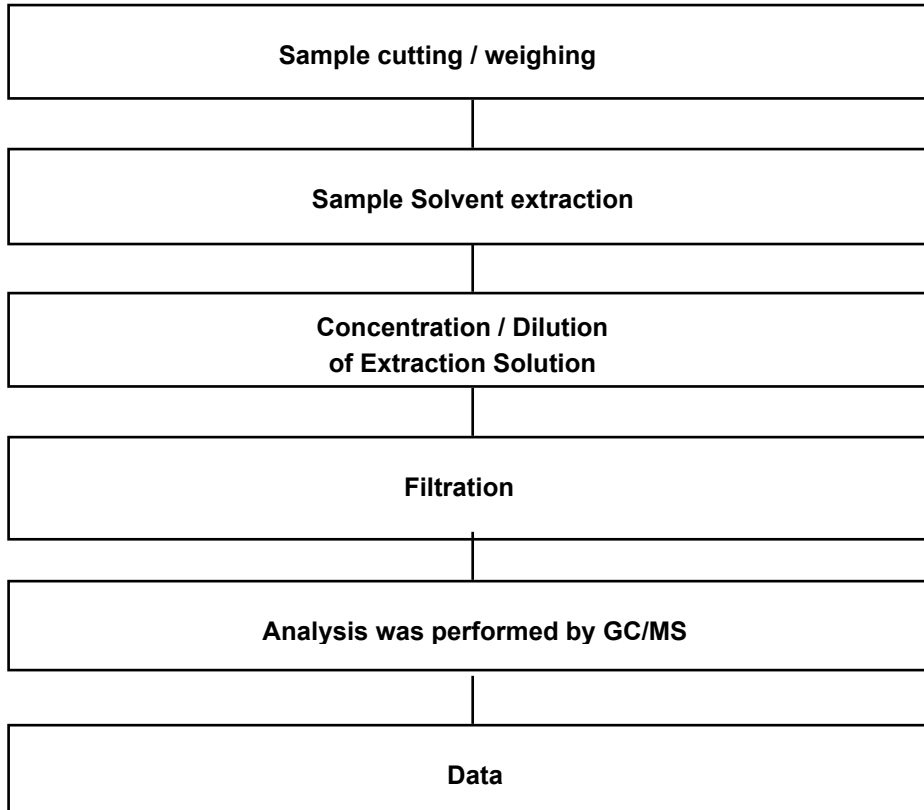
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### Testing Flow Chart for HBCD



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### Flow Chart for Phthalate Test



\*\*\* End of Report \*\*\*

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