Test Report No. F690101/LF-CTSAYAA23-10099

Issued Date : 2023. 02. 27

YOUNG YIEL PRECISION CO., LTD
132,Beotkkot-ro
Geumcheon-gu,Seoul
Korea

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

SGS File No.	:	AYAA23-10099
Product Name	:	Raw material (C1100 Copper)
Item No./Part No.	:	N/A
Received Date	:	2023. 02. 20
Test Period	:	2023. 02. 20 to 2023. 02. 27
Test Results	:	For further details, please refer to following page(s)

SGS Korea Co., Ltd.

Tommy Oh / Chemical Lab Mgr

SGS Korea Co.,Ltd.
322, The O valley, 76, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea 14117
t +82 (0)31 4608 000 f +82 (0)31 4608 059 http://www.sgsgroup.kr

Sample No. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

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+AMD1:2017CVS, 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.
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.

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.

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Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Flame Retardants-PBBs/PBDEs

Test Items	Unit	Test Method	MDL	Results
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-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. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

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.

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 GC-MS(CI)	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

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.

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Item No./Part No. : N/A
Materials : C1100 Copper

Halogen Content

Test Items	Unit	Test Method	MDL	Results
Fluorine(F)	mg/kg	With reference to BS EN 14582 : 2016, by IC	30	N.D.
Iodine(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, by GC/MS	1	N.D.
Triphenyltin (TPhT)	mg/kg	with reference to ISO 17353, by GC/MS	1	N.D.
Dibutyltin (DBT)	mg/kg	with reference to ISO 17353, by GC/MS	1	N.D.
Bis (tributyltin)oxide (TBTO)	mg/kg	with reference to ISO 17353, by GC/MS	1	N.D.
Dioctyltin(DOT)	mg/kg	with reference to ISO 17353, by GC/MS	1	N.D.

Ozone Depleting Substances

Test Items	Unit	Test Method	MDL	Results
Trichlorofluoromethane (CFC-11)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Chloro-1,1,2,2,2-pentafluoroethane (CFC-115)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Dichlorodifluoromethane (CFC-12)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Chlorotrifluoromethane (CFC-13)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,3,3,3-Hexachloro-2,2-difluoropropane (CFC-212)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,3,3-Pentachloro-2,2,3-trifluoropropane (CFC-213)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.

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Sample No. : AYAA23-10099.001
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Item No./Part No. : N/A
Materials : C1100 Copper

Ozone Depleting Substances

Test Items	Unit	Test Method	MDL	Results
1,1,3-Trichloro-1,2,2,3,3-pentafluoropropane (CFC-215cb)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dichloro-1,1,2,3,3,3-hexafluoropropane (CFC-216)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Chloro-1,1,2,2,3,3,3-heptafluoropropane (CFC-217)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2-Trichloro-2-fluoroethane (HCFC-131)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1-Dichloro-1-fluoroethane (HCFC-141b)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Chloro-1,1-difluoroethane (HCFC-142b)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Chloro-1-fluoroethane (HCFC-151)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Dichlorofluoromethane (HCFC-21)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Chlorodifluoromethane (HCFC-22)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Chlorofluoromethane (HCFC-31)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.

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Sample No. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Ozone Depleting Substances

Test Items	Unit	Test Method	MDL	Results
2-Chloro-1,1,1,3,3,3-hexafluoro-propane (HCFC-226da)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dichloro-2-fluoropropane (HCFC-261ba)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Methyl bromide (Halon-1001)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Bromochloromethane (Halon-1011)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Dibromodifluoromethane (Halon-1202)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Bromochlorodifluoromethane (Halon-1211)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Bromotrifluoromethane (Halon-1301)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dibromo-1,1,2,2-tetrafluoroethane (Halon-2402)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dibromo-1,1-difluoroethane (HBFC-132B2)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
2-Bromo-1,1,1-trifluoroethane (HBFC-133B1)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Bromo-2-fluoroethane (HBFC-151B1)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Dibromofluoromethane (HBFC-21B2)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Bromodifluoromethane (HBFC-22B1)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Bromo-3-fluoropropane (HBFC-271B1)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Bromofluoromethane (HBFC-31B1)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,2,2-Pentafluoroethane (HFC-125)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2,2-Tetrafluoroethane (HFC-134)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,2-Tetrafluoroethane (HFC-134a)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2-Trifluoroethane (HFC-143)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1-Trifluoroethane (HFC-143a)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.

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Sample No. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Ozone Depleting Substances

Test Items	Unit	Test Method	MDL	Results
1,1-Difluoroethane (HFC-152a)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,2,3,3,3-Heptafluoropropane (HFC-227ea)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Fluoroform (HFC-23)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2,2,3-Pentafluoropropane (HFC-245ca)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,4-Dihydrooctafluorobutane (HFC-338)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Fluoromethane (HFC-41)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
2-Perfluoromethylpentane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Carbon tetrafluoride	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Nonafluro-2-(trifluoromethyl)butane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluoro-1-butane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluorobutane (Decafluorobutane)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluorocyclobutane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluoroethane (Hexafluoroethane)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluorohexane (Tetradecafluorohexane)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluoroisobutene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluoropentane (Dodecafluoropentane)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Perfluoropropane (Octafluoroproane)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,1,2-Tetrachloroethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2,2-Tetrachloroethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1,2-Trichloroethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.

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Sample No. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Ozone Depleting Substances

Test Items	Unit	Test Method	MDL	Results
1,1-Dichloroethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1-Dichloroethene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,1-Dichloropropene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2,3-Trichloropropane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dichloroethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,2-Dichloropropane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1,3-Dichloropropane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
2,2-Dichloropropane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Carbon tetrachloride	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Chloroethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Chloroform	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
cis-1,2-Dichloroethene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
cis-1,3-Dichloropropene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Dichloromethane	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Hexachlorobutadiene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Methyl chloride	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Methylchloroform	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Tetrachloroethene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
trans-1,2-Dichloroethene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
trans-1,3-Dichloropropene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Trichloroethylene	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
1-Bromopropane (n-Propyl bromide)	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.
Sulfur hexafluoride	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.

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Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Ozone Depleting Substances

Test Items	Unit	Test Method	MDL	Results
Trifluoromethyl iodide	mg/kg	EPA 5021A :2014, GC/MS	1	N.D.

Flame Retardants

Test Items	Unit	Test Method	MDL	Results
Tetrabromobisphenol A	mg/kg	With reference to US EPA 3540C, by GC-MS	10	N.D.
Hexabromocyclododecane (HBCDD)	mg/kg	With reference to USEPA 3540 C, by LC/MS	5	N.D.

Azo Dyes

Test Items	Unit	Test Method	MDL	Results
o-Toluidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2,4-Xylidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2,6-Xylidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
o-Anisidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
p-Chloroaniline	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
p-Cresidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2,4,5-Trimethylaniline	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
4-Chloro-o-Toluidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2,4-Toluenediamine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2,4-Diaminoanisole	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2-Naphtylamine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
2-Amino-4-Nitrotoluene	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.

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Sample No. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Azo Dyes

Test Items	Unit	Test Method	MDL	Results
4-Aminodiphenyl	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
4,4'-Oxydianiline	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
Benzidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
4,4'-diaminodiphenylmethane	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
o-Aminoazotoluene	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
3,3-Dimethyl-4.4'-diaminodiphenyl methane	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
3,3-Dimethylbenzidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
4,4'-Thiodianiline	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
3,3'-Dichlorobenzidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
4,4'-Methylen-bis-(2-chloroaniline)	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
3,3-Dimethoxybenzidine	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.
4-Aminoazobenzene	mg/kg	With reference to EN 14362-1:2012, GC/MS & HPLC/DAD	5	N.D.

Other(s)

Test Items	Unit	Test Method	MDL	Results
2-Benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	mg/kg	with reference to DIN EN 62321-6, GC/MS	50	N.D.

Perfluorinated Compounds (PFC)

Test Items	Unit	Test Method	MDL	Results
Perfluorootanoic acid (PFOA) and its salts +	µg/kg	CEN/TS 15968, LC/MS/MS	10	N.D.

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Sample No. : AYAA23-10099.001
Sample Description : Raw material (C1100 Copper)
Item No./Part No. : N/A
Materials : C1100 Copper

Perfluorinated Compounds (PFC)

Test Items	Unit	Test Method	MDL	Results
Perfluorooctane sulfonate (PFOS) and its salts ^	µg/kg	CEN/TS 15968, LC/MS/MS	10	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 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) Ozone Depleting Substance test result(s) was/were obtained by semi-quantitative analysis using reference substances
(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.

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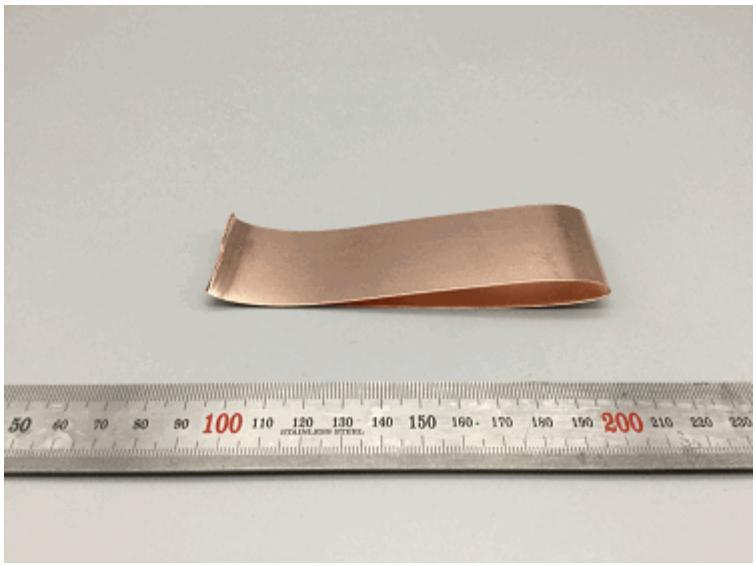
Picture of Sample as Received:



AYAA23-10099.001

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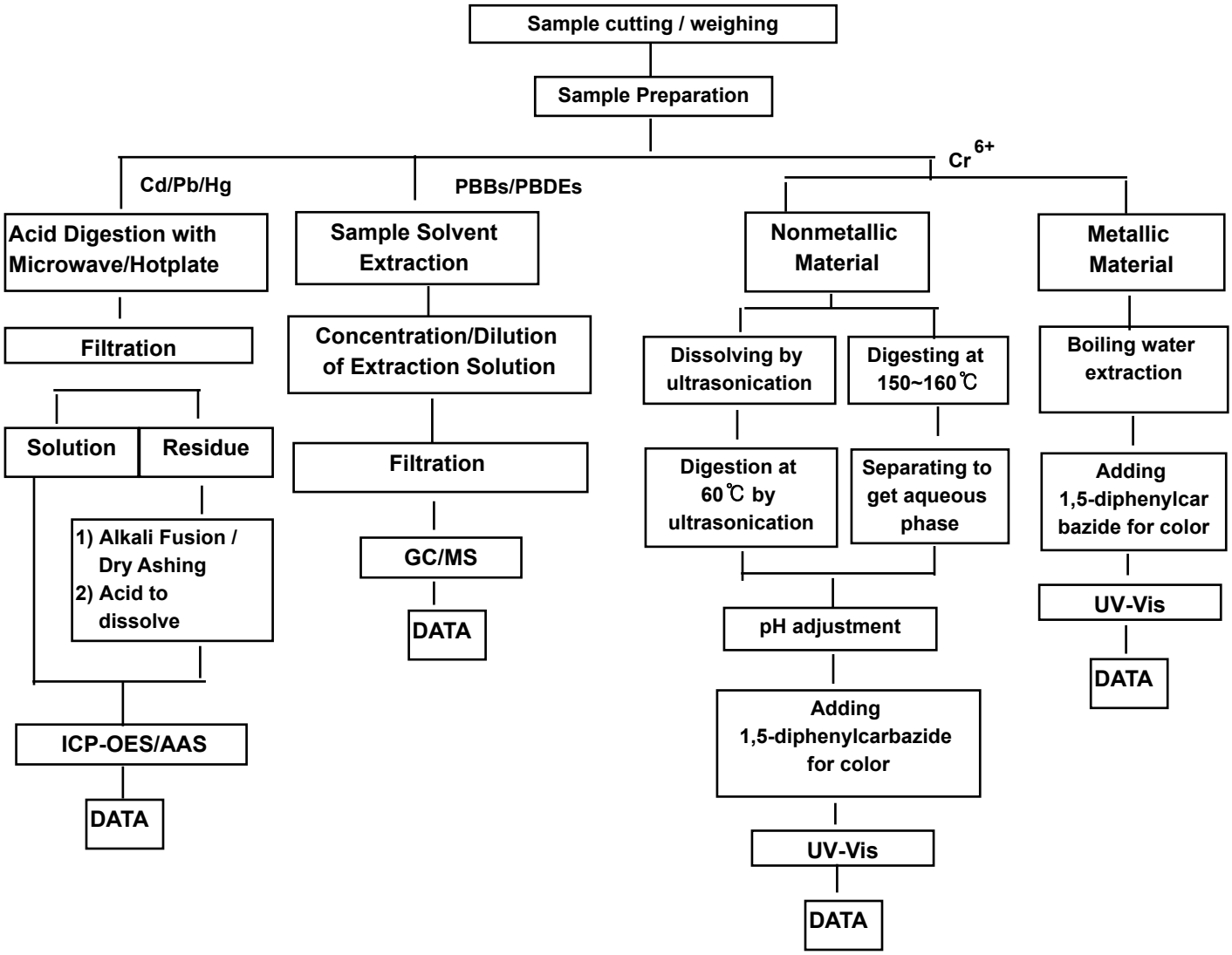
Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr^{6+} /PBBs&PBDEs Testing



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

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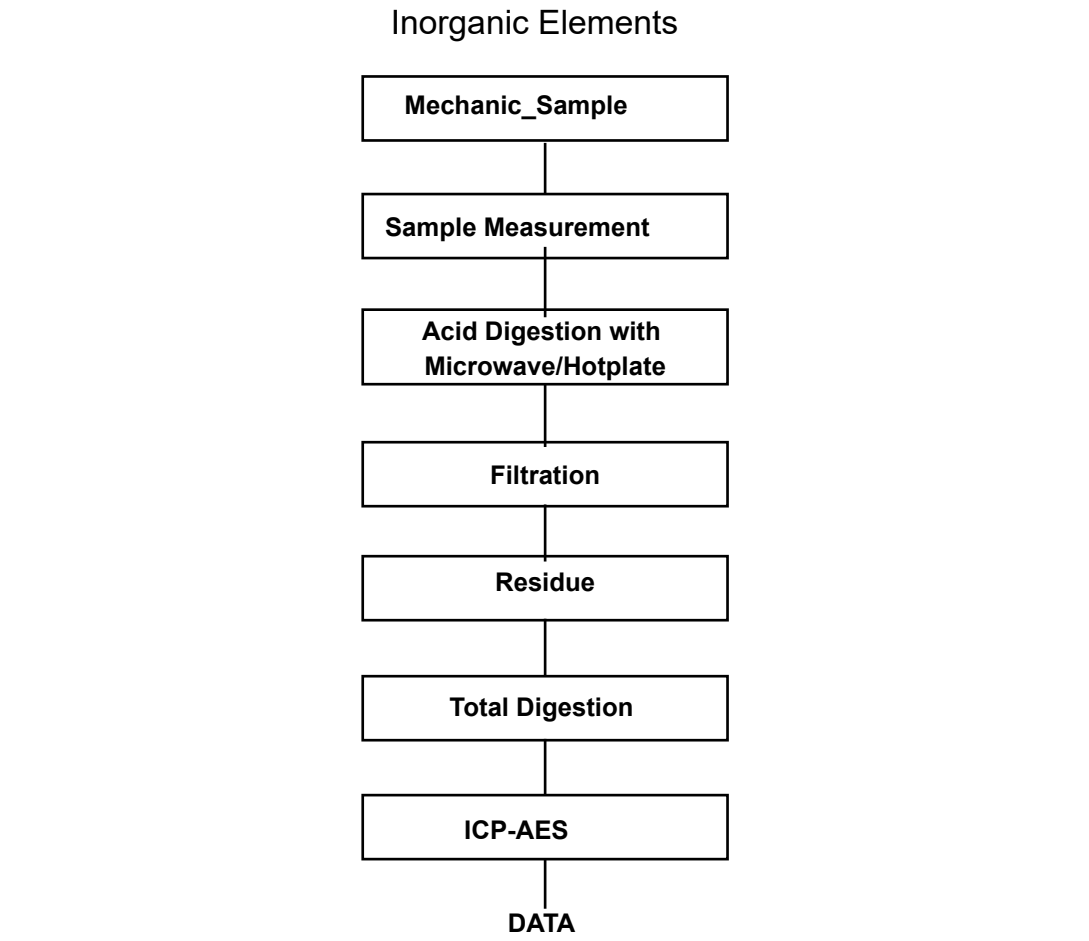
Flow Chart for Inorganic Elements Testing



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

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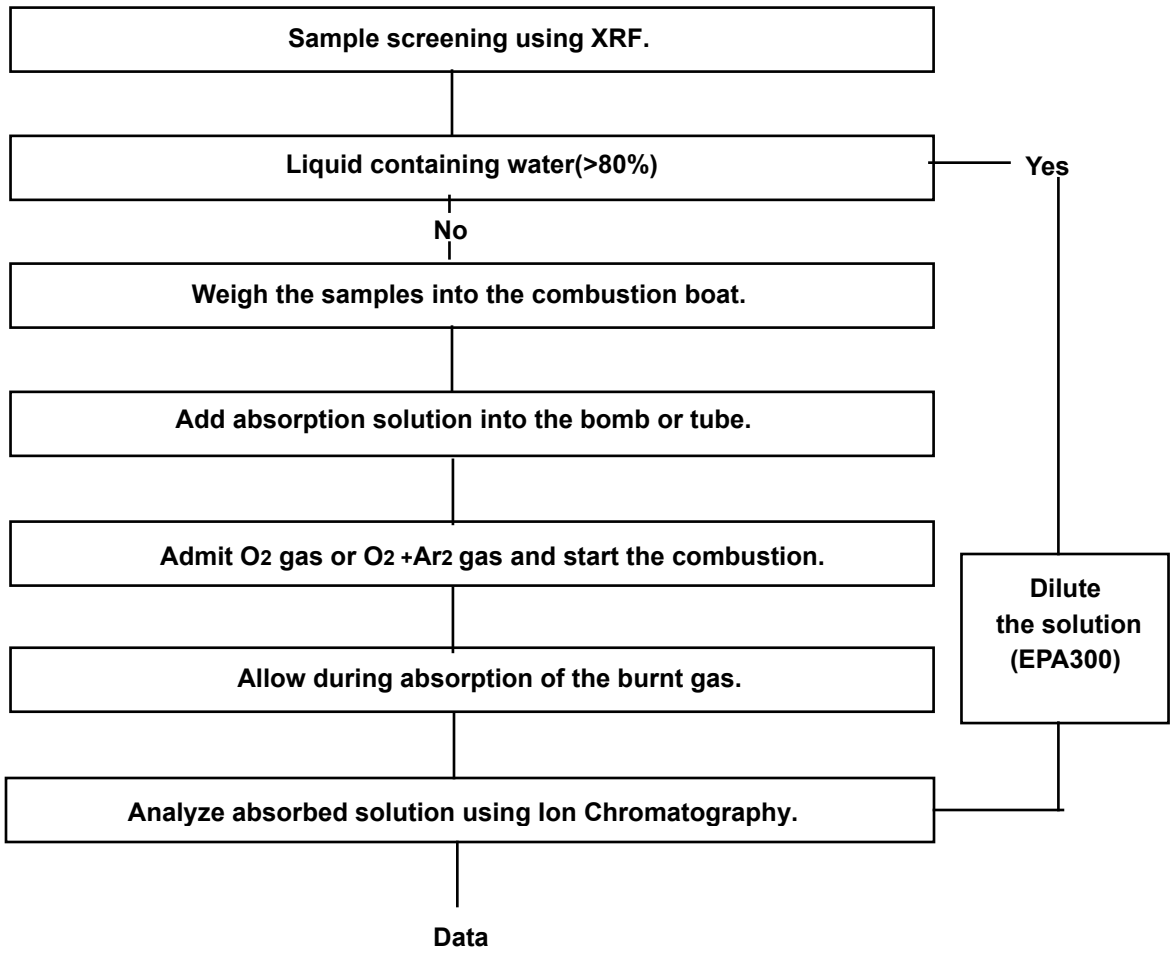
Flow Chart for Halogen Test



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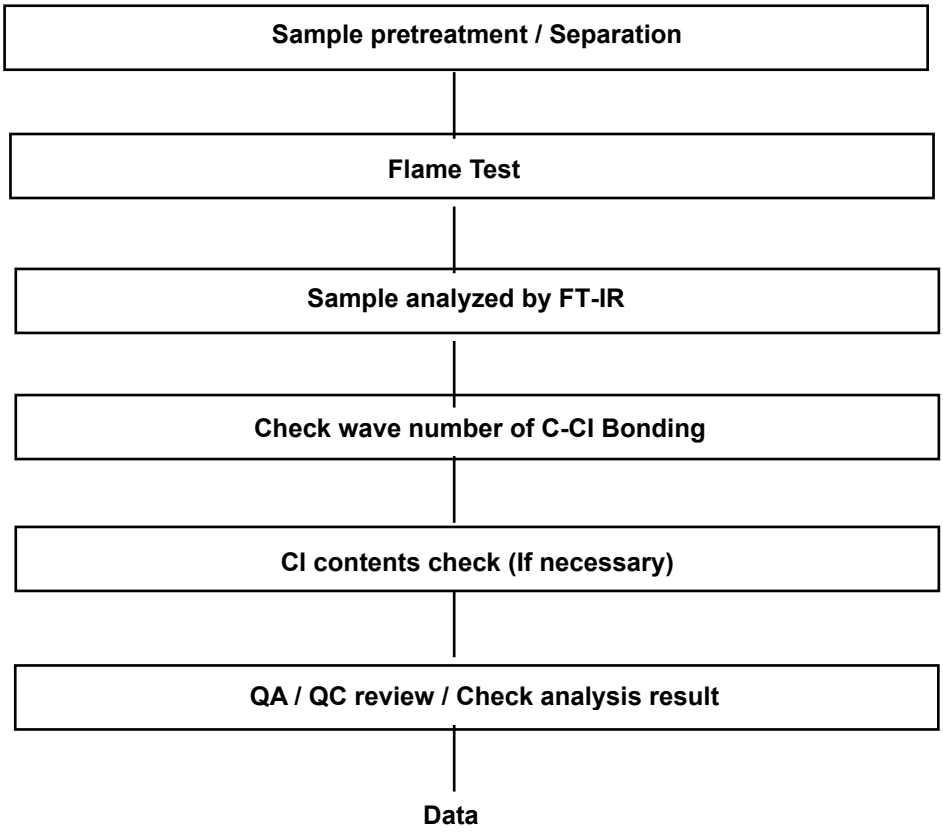
Flow Chart for PVC Test



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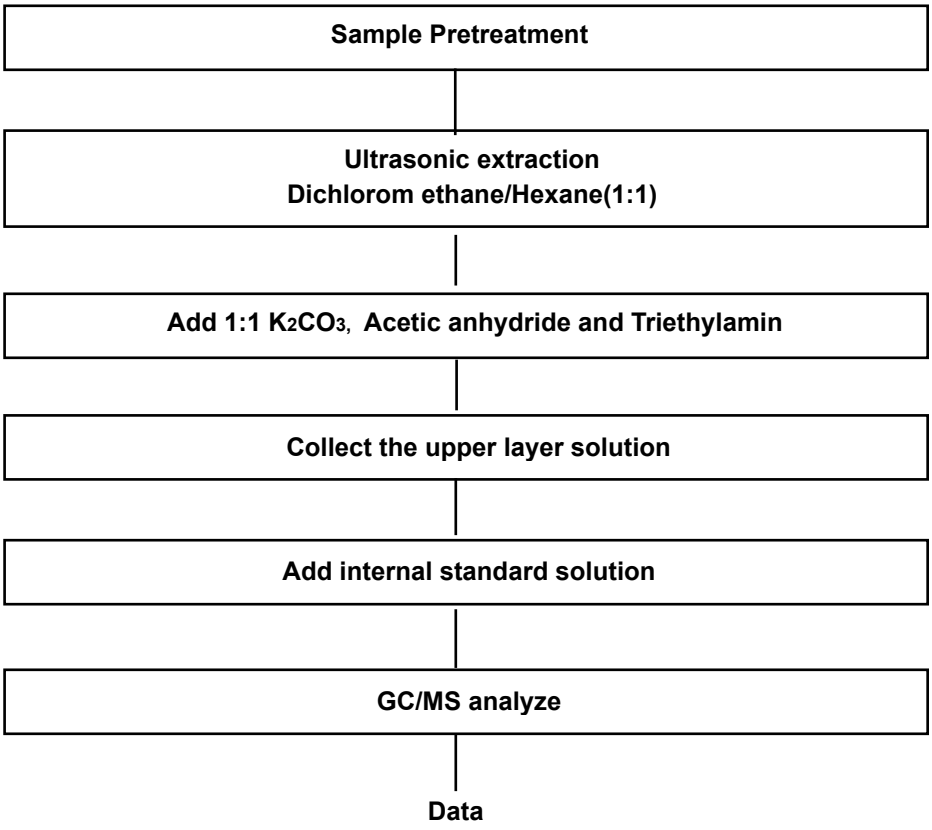
Flow Chart for TBBPA Test



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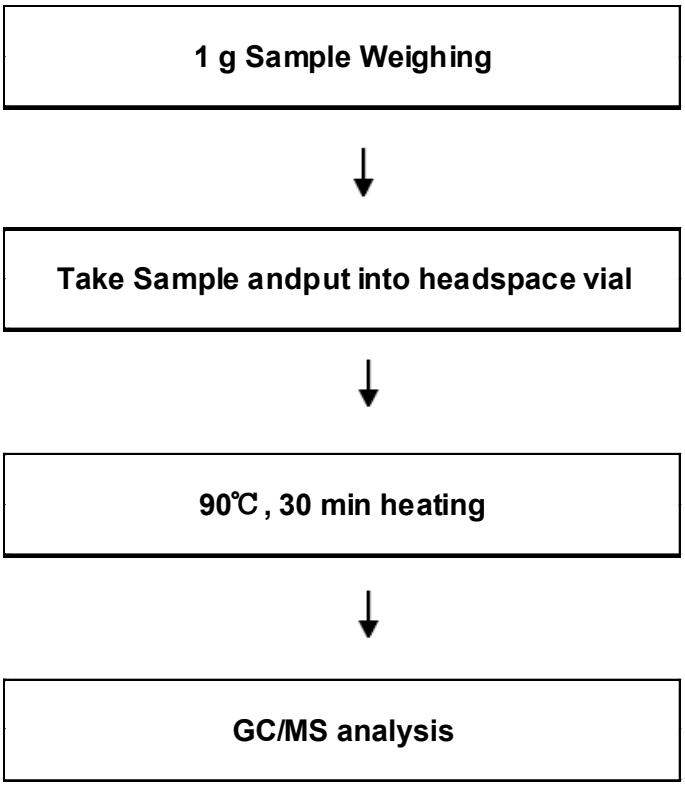
ODS Analysis Flow Chart



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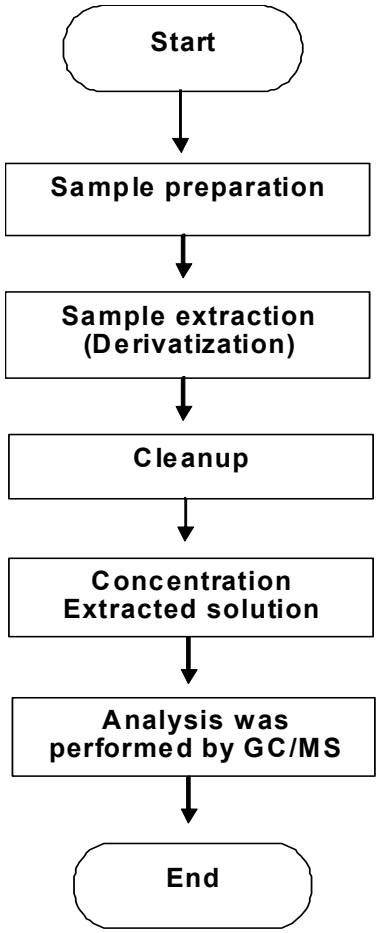
Organotin Flow Chart



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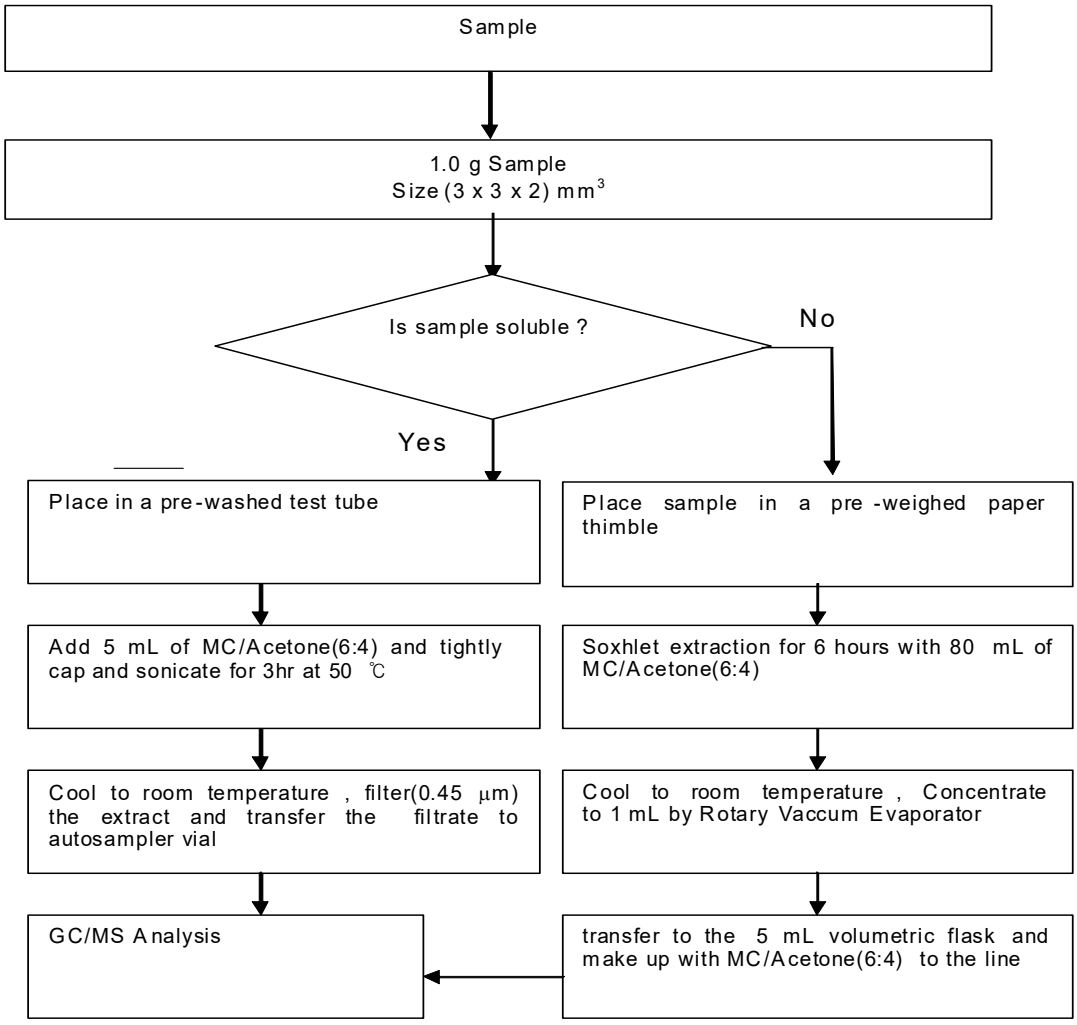
PCBs,PCTs,PCNs Flow Chart



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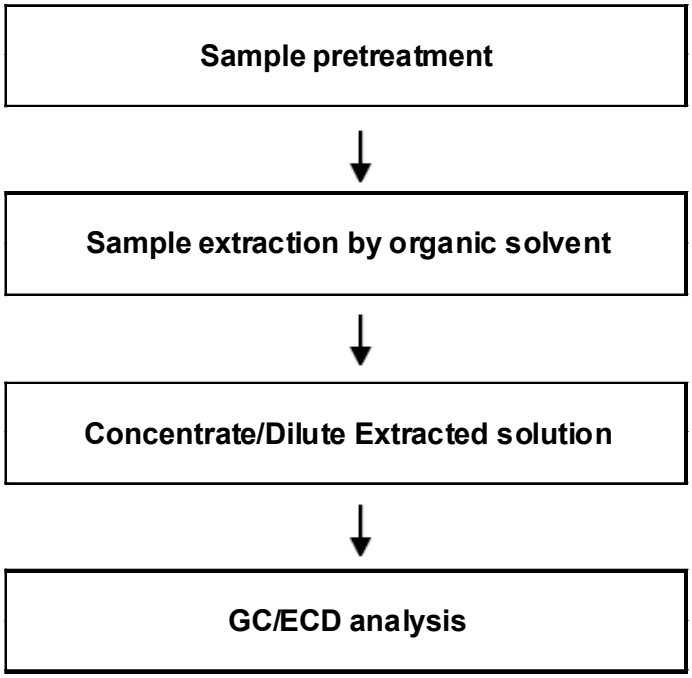
SCCP Analysis Flow Chart



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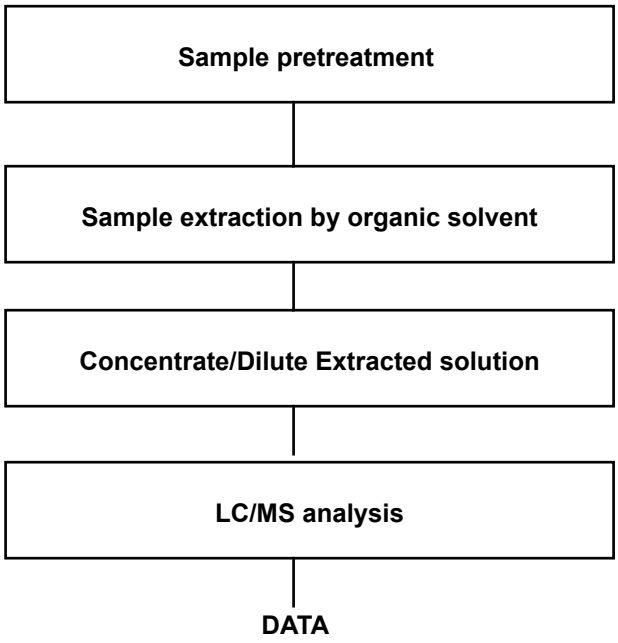
Testing Flow Chart for HBCD



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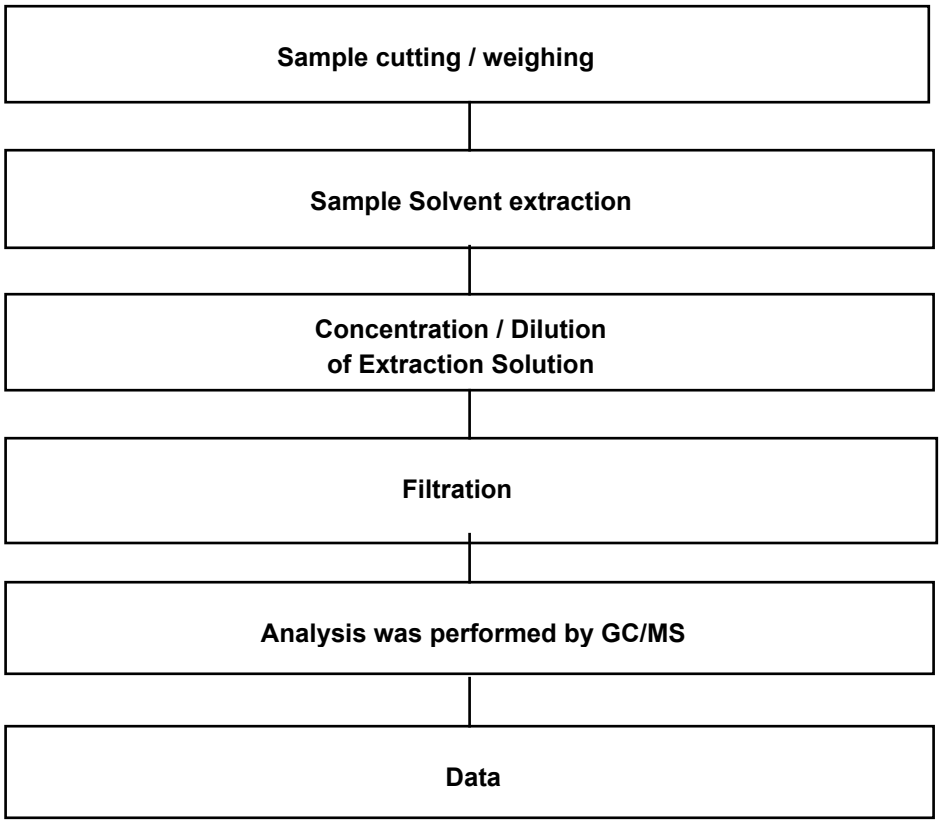
Flow Chart for PhthalateTest



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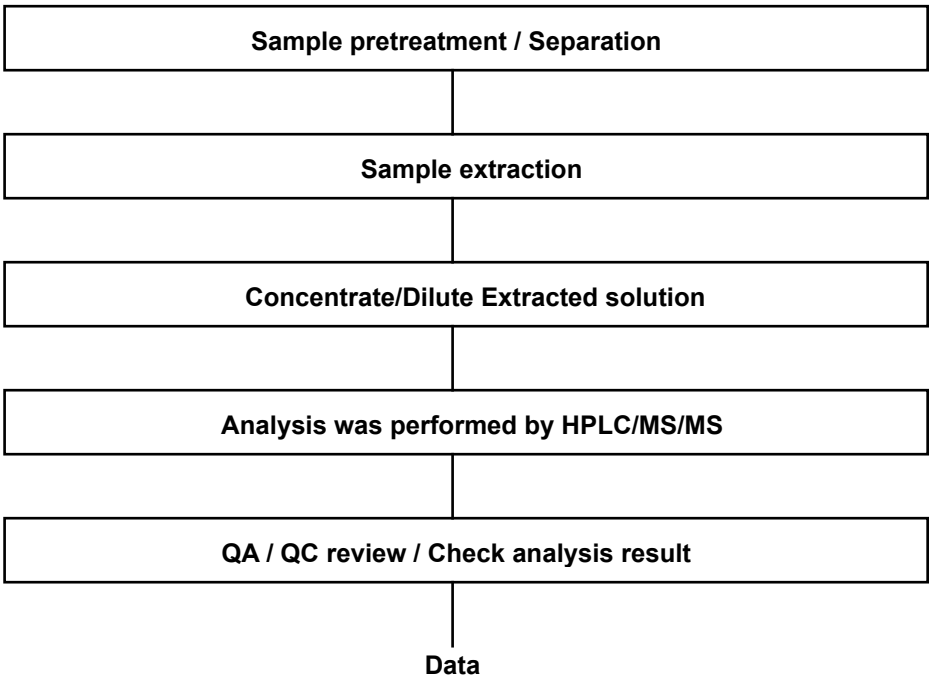
Flow Chart for PFOS/PFOA Test



*** End of Report ***

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