Test Report

No. CANEC2207314317 Date: 17 May 2022 Page 1 of 26

Client Name : SH ELECTRONICS SUZHOU CO., LTD.

Client Address : NO.123,LONGTAN RD.3RD DISTRICT,SUZHOU INDUSTRIAL PARK,SUZHOU,JIANGSU,CHINA(215126)

Sample Name : LEAD FRAME

Model No. : C7025 (UNS#C70250)

The above sample(s) and information were provided by the client.

SGS Job No. : CP22-020584 - GZ

Internal Reference No. : 22561959

Date of Sample Received : 20 Apr 2022

Testing Period : 20 Apr 2022 - 28 Apr 2022

Test Requested : Selected test(s) as requested by the client.

Test Method(s) : Please refer to next page(s).

Test Result(s) : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU	PASS
Halogen	See Results
Elementary Analysis	See Results
Polyvinyl Chloride(PVC)	See Results
ODS	See Results
Asbestos	See Results
Tetrabromobisphenol A (TBBP-A)	See Results
Phthalates	See Results
Polychlorinated Biphenyls (PCBs)	See Results
Polychlorinated Naphthalenes (PCNs)	See Results
Polychlorinated Terphenyls (PCTs)	See Results
Chlorinated Paraffins	See Results
Organic-tin compounds	See Results
Hexabromocyclododecane (HBCDD)	See Results

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center Chemical Laboratory.

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European Regulation POPs (EU) 2020/784 amending to Regulation (EU) 2019/1021 - PFOA and its salts, PFOS and its derivatives, PFOA-Related Substances	PASS
Benzotriazole UV Absorbant	See Results
Azo Dyes	See Results

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

scan to see the report

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Approved Signatory

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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN22-073143.003	Copper-color metal

Remarks :

(1) 1 mg/kg = 0.0001%
(2) MDL = Method Detection Limit
(3) ND = Not Detected (< MDL)
(4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
(3) With reference to IEC 62321-4:2013+A1:2017, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis
(5) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
(6) With reference to IEC 62321-8:2017, determination of Phthalates by GC-MS.

Test Item(s)	Limit	Unit	MDL	*003*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▾	-	µg/cm²	0.10	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND

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Test Item(s)	Limit	Unit	MDL	*003*
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

(2) IEC 62321 series is equivalent to EN 62321 series https://www.cenelec.eu/dyn/www/f?p=104:30:17422328703511 01::::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². The sample coating is considered to contain CrVI

b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 μg/cm²). The coating is considered a non-CrVI based coating

c. The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Halogen

Test Method : With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit	MDL	*003*
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Elementary Analysis

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Test Method : With reference to EPA 3050B:1996, analysis was performed by ICP-OES.

Test Item(s)	Unit	MDL	003
Arsenic (As)	mg/kg	10	ND
Antimony (Sb)	mg/kg	10	ND
Beryllium (Be)	mg/kg	5	ND
Diarsenic trioxide (As_2O_3)	mg/kg	13	ND
Diarsenic pentaoxide (As_2O_5) ◆	mg/kg	15	ND
BeO◆	mg/kg	15	ND
Antimony trioxide(Sb_2O_3)	mg/kg	12	ND
Phosphorus (P)	mg/kg	20	ND

Notes :

(1) ◆Calculated concentration of BeO is based on the identified Be.
Calculated concentration of Sb_2O_3 is based on the identified Sb.
Calculated concentration of As_2O_3 is based on the identified As.
Calculated concentration of As_2O_5 is based on the identified As.

Polyvinyl Chloride(PVC)

Test Method : SGS In-house method (GZTC CHEM-TOP-194-01), analysis was performed by Pyrolysis-GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Polyvinyl chloride component	9002-86-2	%(w/w)	0.05	ND

Notes :

(1) Polyvinyl chloride component includes its present in copolymer.

ODS

Test Method : With reference to US EPA Method 5021A:2014, analysis was performed by HS-GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Sulphur Hexafluoride - SF_6	2551-62-4	mg/kg	0.1	ND
CFC				
CFC-11	75-69-4	mg/kg	0.1	ND
CFC-12	75-71-8	mg/kg	0.1	ND
CFC-113	76-13-1	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	003
CFC-114	76-14-2	mg/kg	0.1	ND
CFC-13	75-72-9	mg/kg	0.1	ND
CFC-111	354-56-3	mg/kg	0.1	ND
CFC-112	76-11-9	mg/kg	0.1	ND
CFC-112	76-12-0	mg/kg	0.1	ND
CFC-113	354-58-5	mg/kg	0.1	ND
CFC-114	374-07-2	mg/kg	0.1	ND
CFC-115	76-15-3	mg/kg	0.1	ND
CFC-211	422-78-6	mg/kg	0.1	ND
CFC-212	661-96-1	mg/kg	0.1	ND
CFC-213	1652-89-7	mg/kg	0.1	ND
CFC-214	677-68-9	mg/kg	0.1	ND
CFC-215	1599-41-3	mg/kg	0.1	ND
CFC-215	76-17-5	mg/kg	0.1	ND
CFC-216	661-97-2	mg/kg	0.1	ND
CFC-216	1652-80-8	mg/kg	0.1	ND
CFC-217	422-86-6	mg/kg	0.1	ND
HCFC				
HCFC-21	75-43-4	mg/kg	0.1	ND
HCFC-22	75-45-6	mg/kg	0.1	ND
HCFC-123	306-83-2	mg/kg	0.1	ND
HCFC-124	2837-89-0	mg/kg	0.1	ND
HCFC-141b	1717-00-6	mg/kg	0.1	ND
HCFC-142b	75-68-3	mg/kg	0.1	ND
HCFC-31	593-70-4	mg/kg	0.1	ND
HCFC-121	354-14-3	mg/kg	0.1	ND
HCFC-122	354-21-2	mg/kg	0.1	ND
HCFC-123a	354-23-4	mg/kg	0.1	ND
HCFC-124a	354-25-6	mg/kg	0.1	ND
HCFC-131	359-28-4	mg/kg	0.1	ND
HCFC-131a	811-95-0	mg/kg	0.1	ND
HCFC-132a	471-43-2	mg/kg	0.1	ND
HCFC-132b	1649-08-7	mg/kg	0.1	ND
HCFC-133a	75-88-7	mg/kg	0.1	ND
HCFC-221	422-26-4	mg/kg	0.1	ND
HCFC-222	422-30-0	mg/kg	0.1	ND
HCFC-223	422-52-6	mg/kg	0.1	ND
HCFC-224	422-54-8	mg/kg	0.1	ND
HCFC-225ca	422-56-0	mg/kg	0.1	ND
HCFC-225cb	507-55-1	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	003
HCFC-226	431-87-8	mg/kg	0.1	ND
HCFC-231	421-94-3	mg/kg	0.1	ND
HCFC-232	460-89-9	mg/kg	0.1	ND
HCFC-233	7125-84-0	mg/kg	0.1	ND
HCFC-234	425-94-5	mg/kg	0.1	ND
HCFC-235	460-92-4	mg/kg	0.1	ND
HCFC-241	666-27-3	mg/kg	0.1	ND
HCFC-242	460-63-9	mg/kg	0.1	ND
HCFC-243	338-75-0	mg/kg	0.1	ND
HCFC-244	679-85-6	mg/kg	0.1	ND
HCFC-251	421-41-0	mg/kg	0.1	ND
HCFC-252	819-00-1	mg/kg	0.1	ND
HCFC-253	460-35-5	mg/kg	0.1	ND
HCFC-261	7799-56-6	mg/kg	0.1	ND
HCFC-261	420-97-3	mg/kg	0.1	ND
HCFC-271	430-55-7	mg/kg	0.1	ND
HCFC-262	102738-79-4	mg/kg	0.1	ND
HCFC-262	420-99-5	mg/kg	0.1	ND
Halon				
Halon 1211	353-59-3	mg/kg	0.1	ND
Halon 1301	75-63-8	mg/kg	0.1	ND
Halon 2402	124-73-2	mg/kg	0.1	ND
HBFC				
CHF_2Br	1511-62-2	mg/kg	0.1	ND
CH_2FBr	373-52-4	mg/kg	0.1	ND
C_2HFBr_4	-	mg/kg	0.1	ND
$C_2HF_2Br_3$	377-34-9	mg/kg	0.1	ND
$C_2HF_3Br_2$	354-04-1	mg/kg	0.1	ND
C_2HF_4Br	-	mg/kg	0.1	ND
$C_2H_2FBr_3$	-	mg/kg	0.1	ND
$C_2H_2F_2Br_2$	75-82-1	mg/kg	0.1	ND
$C_2H_2F_3Br$	421-06-7	mg/kg	0.1	ND
$C_2H_3FBr_2$	358-97-4	mg/kg	0.1	ND
$C_2H_3F_2Br$	359-07-9	mg/kg	0.1	ND
C_2H_4FBr	762-49-2	mg/kg	0.1	ND
C_3HFBr_6	-	mg/kg	0.1	ND
$C_3HF_2Br_5$	-	mg/kg	0.1	ND
$C_3HF_3Br_4$	-	mg/kg	0.1	ND
$C_3HF_4Br_3$	-	mg/kg	0.1	ND
$C_3HF_5Br_2$	431-78-7	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	003
C_3HF_6Br	2252-78-0	mg/kg	0.1	ND
$C_3H_2FBr_5$	-	mg/kg	0.1	ND
$C_3H_2F_2Br_4$	-	mg/kg	0.1	ND
$C_3H_2F_3Br_3$	421-90-9	mg/kg	0.1	ND
$C_3H_2F_4Br_2$	460-86-6	mg/kg	0.1	ND
$C_3H_2F_5Br$	32778-10-2	mg/kg	0.1	ND
$C_3H_3FBr_4$	-	mg/kg	0.1	ND
$C_3H_3F_2Br_3$	-	mg/kg	0.1	ND
$C_3H_3F_3Br_2$	431-21-0	mg/kg	0.1	ND
$C_3H_3F_4Br$	679-84-5	mg/kg	0.1	ND
$C_3H_4FBr_3$	-	mg/kg	0.1	ND
$C_3H_4F_2Br_2$	460-25-3	mg/kg	0.1	ND
$C_3H_4F_3Br$	460-32-2	mg/kg	0.1	ND
$C_3H_5FBr_2$	453-00-9	mg/kg	0.1	ND
$C_3H_5F_2Br$	420-89-3	mg/kg	0.1	ND
C_3H_6FBr	-	mg/kg	0.1	ND
Others				
Dibromofluoromethane	1868-53-7	mg/kg	0.1	ND
Methyl bromide	74-83-9	mg/kg	0.1	ND
Bromochloromethane	74-97-5	mg/kg	0.1	ND
HFC				
HFC-23	75-46-7	mg/kg	0.1	ND
HFC-32	75-10-5	mg/kg	0.1	ND
HFC-41	593-53-3	mg/kg	0.1	ND
HFC-43-10mee	-	mg/kg	0.1	ND
HFC-125	354-33-6	mg/kg	0.1	ND
HFC-134	359-35-3	mg/kg	0.1	ND
HFC-134a	811-97-2	mg/kg	0.1	ND
HFC-152a	75-37-6	mg/kg	0.1	ND
HFC-143	430-66-0	mg/kg	0.1	ND
HFC-143a	420-46-2	mg/kg	0.1	ND
HFC-227ea	-	mg/kg	0.1	ND
HFC-236cb	-	mg/kg	0.1	ND
HFC-236ea	431-63-0	mg/kg	0.1	ND
HFC-236fa	690-39-1	mg/kg	0.1	ND
HFC-245ca	679-86-7	mg/kg	0.1	ND
HFC-245fa	-	mg/kg	0.1	ND
HFC-365mfc	-	mg/kg	0.1	ND
PFC				
Perfluoromethane	75-73-0	mg/kg	0.1	ND

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Test Item(s)	CAS NO.	Unit	MDL	003
Perfluoroethane	76-16-4	mg/kg	0.1	ND
Perfluoropropane	76-19-7	mg/kg	0.1	ND
Perfluorobutane	355-25-9	mg/kg	0.1	ND
Perfluoropentane	678-26-2	mg/kg	0.1	ND
Perfluorohexane	355-42-0	mg/kg	0.1	ND
Perfluorocyclobutane	115-25-3	mg/kg	0.1	ND
CHC				
1,3-dichloropropane	142-28-9	mg/kg	0.1	ND
2,2-dichloropropane	594-20-7	mg/kg	0.1	ND
Carbon tetrachloride	56-23-5	mg/kg	0.1	ND
chloroethane	75-00-3	mg/kg	0.1	ND
Chloroform	67-66-3	mg/kg	0.1	ND
chloromethane	74-87-3	mg/kg	0.1	ND
Cis-1,2-dichloroethene	156-59-2	mg/kg	0.1	ND
Cis-1,3-dichloropropene	10061-01-5	mg/kg	0.1	ND
Hexachlorobutadiene	87-68-3	mg/kg	0.1	ND
Methylene chloride	75-09-2	mg/kg	0.1	ND
Tetrachloroethene	127-18-4	mg/kg	0.1	ND
Trans-1,2-dichloroethene	156-60-5	mg/kg	0.1	ND
Trans-1,3-dichloropropene	10061-02-6	mg/kg	0.1	ND
Trichloroethylene	79-01-6	mg/kg	0.1	ND
1,1,1,2-tetrachloroethane	630-20-6	mg/kg	0.1	ND
1,1,1-trichloroethane	71-55-6	mg/kg	0.1	ND
1,1,2,2-tetrachloroethane	79-34-5	mg/kg	0.1	ND
1,1,2-trichloroethane	79-00-5	mg/kg	0.1	ND
1,1-dichloroethane	75-34-3	mg/kg	0.1	ND
1,1-dichloroethene	75-35-4	mg/kg	0.1	ND
1,1-dichloropropene	563-58-6	mg/kg	0.1	ND
1,2,3-trichloropropane	96-18-4	mg/kg	0.1	ND
1,2-dichloroethane	107-06-2	mg/kg	0.1	ND
1,2-dichloropropane	78-87-5	mg/kg	0.1	ND

Asbestos

Test Method : With reference to NIOSH 9002:1994 / NIOSH 9000:2015, Analysis was performed by PLM / XRD.

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Test Item(s)	CAS NO.	Unit	MDL	003
Chrysotile	12001-29-5/13220 7-32-0	% (m/m)	0.1	Negative
Amosite	12172-73-5	% (m/m)	0.1	Negative
Crocidolite	12001-28-4	% (m/m)	0.1	Negative
Anthophyllite	77536-67-5	% (m/m)	0.1	Negative
Tremolite	77536-68-6	% (m/m)	0.1	Negative
Actinolite	77536-66-4	% (m/m)	0.1	Negative

Notes :

(1)Negative means the absence of asbestos, Positive means the presence of asbestos.

Tetrabromobisphenol A (TBBP-A)

Test Method : With reference to EPA 3540C:1996 & EPA 8270E:2017, analysis was performed by LC-MS/MS.

Test Item(s)	Unit	MDL	003
Tetrabromobisphenol A (TBBP-A)	mg/kg	5	ND

Phthalates

Test Method : With reference to IEC 62321-8:2017, analyzed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
Diisopentyl Phthalate (DIPP)	605-50-5	%(w/w)	0.005	ND
n-pentyl Isopentyl Phthalate (nPIPP)	776297-69-9	%(w/w)	0.005	ND
Dipentyl Phthalates (DPENP/DnPP)	131-18-0	%(w/w)	0.005	ND
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters,C7-rich (DIHP)	71888-89-6	%(w/w)	0.005	ND
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	%(w/w)	0.005	ND
Bis(2-methoxyethyl) Phthalate (DMEP)	117-82-8	%(w/w)	0.005	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.005	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%(w/w)	0.005	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.005	ND

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Test Item(s)	CAS NO.	Unit	MDL	003
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.005	ND
Di-n-heptyl Phthalate (DnHpP)	3648-21-3	%(w/w)	0.005	ND
1,2-Benzenedicarboxylic acid, dihexyl ester branched and linear(DHP)	68515-50-4	%(w/w)	0.005	ND

Polychlorinated Biphenyls (PCBs)

Test Method : With reference to EPA 8082A:2007, analysis was performed by GC-ECD/GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
2,4,4'-Trichlorobiphenyl (PCB 28)	7012-37-5	mg/kg	0.5	ND
2,2',5,5'-Tetrachloro-biphenyl (PCB 52)	35693-99-3	mg/kg	0.5	ND
2,2',4,5,5'-Pentachloro-biphenyl (PCB 101)	37680-73-2	mg/kg	0.5	ND
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	31508-00-6	mg/kg	0.5	ND
2,2',3,4,4',5'-Hexachloro-biphenyl (PCB 138)	35065-28-2	mg/kg	0.5	ND
2,2',4,4',5,5'-Hexachloro-biphenyl (PCB 153)	35065-27-1	mg/kg	0.5	ND
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	35065-29-3	mg/kg	0.5	ND

Polychlorinated Naphthalenes (PCNs)

Test Method : With reference to EPA 8082A:2007, analysis was performed by GC-ECD/GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	003
1-Chlorinated Naphthalene	90-13-1	mg/kg	5	ND
2-Chlorinated Naphthalene	91-58-7	mg/kg	5	ND
1,4-Dichlorinated Naphthalene	1825-31-6	mg/kg	5	ND
1,5-Dichlorinated Naphthalene	1825-30-5	mg/kg	5	ND
1,2-Dichlorinated Naphthalene	2050-69-3	mg/kg	5	ND
1,8-Dichlorinated Naphthalene	2050-74-0	mg/kg	5	ND
1,2,3-Trichlorinated Naphthalene	50402-52-3	mg/kg	5	ND
1,2,3,4-Tetrachlorinated Naphthalene	20020-02-4	mg/kg	5	ND
1,2,3,4,6-Pentachlorinated Naphthalene	67922-26-3	mg/kg	5	ND
Octa-chlorinated Naphthalene	2234-13-1	mg/kg	5	ND

Polychlorinated Terphenyls (PCTs)

Test Method : With reference to EPA 8082A:2007, analysis was performed by GC-ECD/GC-MS.

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Test Item(s)	CAS NO.	Unit	MDL	003
Aroclor 5432	63496-31-1	mg/kg	5	ND
Aroclor 5442	12642-23-8	mg/kg	5	ND
Aroclor 5460	11126-42-4	mg/kg	5	ND

Chlorinated Paraffins

Test Method : With reference to EPA 3550C:2007, analysis was performed by GC-NCI-MS / GC-ECD.

Test Item(s)	Unit	MDL	003
Alkanes C10-C13, chloro (short-chain chlorinated paraffins) (SCCPs)	mg/kg	50	ND

Organic-tin compounds

Test Method : With reference to ISO 17353:2004, analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	003
Dibutyl tin (DBT)	mg/kg	0.02	ND
Tributyl tin (TBT)	mg/kg	0.02	ND
Dioctyl tin (DOT)	mg/kg	0.02	ND
Bis(tributyltin)oxide (TBTO)◆	mg/kg	0.02	ND
Tri-n-propyl tin(TPT)	mg/kg	0.02	ND

Notes :

(1) ◆Bis(tributyltin)oxide (TBTO) is calculated by the test result of Tributyltin (TBT)

Hexabromocyclododecane (HBCDD)

Test Method : With reference to EPA 3540C:1996, analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	003
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)	mg/kg	10	ND

European Regulation POPs (EU) 2020/784 amending to Regulation (EU) 2019/1021 - PFOA and its salts, PFOS and its derivatives, PFOA-Related Substances

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS and GC-MS.

Test Item(s)	CAS NO.	Limit	Unit	MDL	003
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	0.025	mg/kg	0.010	ND

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Test Item(s)	CAS NO.	Limit	Unit	MDL	003
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	-	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	-	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	-	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	-	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido) -ethanol(MeFOSE)	24448-09-7	-	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido) -ethanol(EtFOSE)	1691-99-2	-	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	1000	mg/kg	-	ND
Comment					**PASS**
PFOA related substances	-	1.0	mg/kg	-	ND
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	-	mg/kg	0.2	ND
Methyl perfluorooctanoate (Me-PFOA)	376-27-2	-	mg/kg	0.2	ND
Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	-	mg/kg	0.2	ND
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	-	mg/kg	0.2	ND
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	-	mg/kg	0.2	ND
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	-	mg/kg	0.2	ND
Perfluoro-1-iodooctane (PFOI)	507-63-1	-	mg/kg	0.2	ND
Comment					**PASS**

Notes :

(1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
(2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH4 (CAS No.: 29081-56-9), PFOS-NH(OH)2 (CAS No.: 70225-14-8), PFOS-N(C2H5)4 (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)

Benzotriazole UV Absorbant

Test Method : With reference to EPA 3550C:2007, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	*003*
2-(3,5-Di-tert-butyl-2-hydroxyphenyl) benzotriazole (UV-320)	3846-71-7	mg/kg	5	ND

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Test Item(s)	CAS NO.	Unit	MDL	*003*
2-(3',5'-Di-tert-butyl-2'-hydroxyphenyl)-5-chloro benzotriazole	3864-99-1	mg/kg	5	ND
2-(2'-hydroxy-3',5'-di-tert-amylphenyl) benzotriazole (UV-328)	25973-55-1	mg/kg	5	ND
TinUVin 350 (UV-350)	36437-37-3	mg/kg	5	ND

Azo Dyes

Test Method : With reference to EN ISO14362-1:2017, analysis was conducted with GC-MS/HPLC-DAD. Determination of 4-aminoazobenzene (CAS No.:60-09-3): with reference to EN ISO14362-3:2017, analysis was conducted with GC-MS/HPLC-DAD.

Test Item(s)	CAS NO.	Unit	MDL	*003*	
				Method A	*Method B*
4-Aminobiphenyl	92-67-1	mg/kg	5	ND	ND
Benzidine	92-87-5	mg/kg	5	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	5	ND	ND
2-naphthylamine	91-59-8	mg/kg	5	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	5	ND	ND
5-nitro-o-toluidine / 2-Amino-4-nitrotoluene	99-55-8	mg/kg	5	ND	ND

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Test Item(s)	CAS NO.	Unit	MDL	003	
				Method A	*Method B*
4-chloroaniline	106-47-8	mg/kg	5	ND	ND
4-methoxy-m-phenylenediamine / 2,4-Diaminoanisole	615-05-4	mg/kg	5	ND	ND
4,4’-diaminodiphenylmethane, MDA	101-77-9	mg/kg	5	ND	ND
3,3’-dichlorobenzidine	91-94-1	mg/kg	5	ND	ND
3,3’-dimethoxybenzidine	119-90-4	mg/kg	5	ND	ND
3,3’-dimethylbenzidine	119-93-7	mg/kg	5	ND	ND
4,4'-methylenedi-o-toluidine/3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	mg/kg	5	ND	ND
p-cresidine	120-71-8	mg/kg	5	ND	ND
4,4’-methylene-bis-(2-chloroaniline)	101-14-4	mg/kg	5	ND	ND
4,4’-oxydianiline	101-80-4	mg/kg	5	ND	ND
4,4’-thiodianiline	139-65-1	mg/kg	5	ND	ND
o-toluidine	95-53-4	mg/kg	5	ND	ND
4-methyl-m-phenylenediamine / 2,4-Toluylendiamine, TDA	95-80-7	mg/kg	5	ND	ND

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Test Item(s)	CAS NO.	Unit	MDL	003	
				Method A	*Method B*
2,4,5-trimethylaniline	137-17-7	mg/kg	5	ND	ND
4-aminoazobenzene	60-09-3	mg/kg	5	ND	ND
O-Anisidine	90-04-0	mg/kg	5	ND	ND
2,4-Xylidine	95-68-1	mg/kg	5	ND	ND
2,6-Xylidine	87-62-7	mg/kg	5	ND	ND

Notes :

1. Direct reduction (Method A) refers to the extraction and reduction according to EN ISO 14362-1:2017 clause 10.2 and relevant clauses. Colorant extraction (Method B) refers to the colourant extraction and subsequent reduction according to EN ISO 14362-1:2017 Clause 10.1 and relevant clauses.
2. 4-Aminodiphenyl (CAS No. 92-67-1), 2-Naphthylamine (CAS No. 91-59-8) and 2,4-Diaminoanisole (CAS No. 615-05-4) can be indirectly generated from some colorants which do not contain these amines azo bound. The use of banned azo colorants cannot be reliably ascertained without additional information.
3. In case PU is used, e.g. PU Foams or coatings, it cannot be ruled out that MDA (CAS No. 101-77-9) and TDA (CAS No. 95-80-7) can be released from PU material, not from banned azo colorant. Similarly, for pigment prints, MDA will be released from a chemical fixing agent.
4. EN ISO 14362-1:2017 will enable further cleavage of 4-AAB (CAS No. 60-09-3) to non-forbidden amines: aniline and p-phenylenediamine. If aniline and/or p-phenylenediamine is not found, 4-AAB is considered as “ND” (i.e. <5.0 mg/kg). Otherwise, EN ISO 14362-3:2017 will be employed to verify the presence of 4-AAB.

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Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w =0) stated in ILAC-G8:09/2019.

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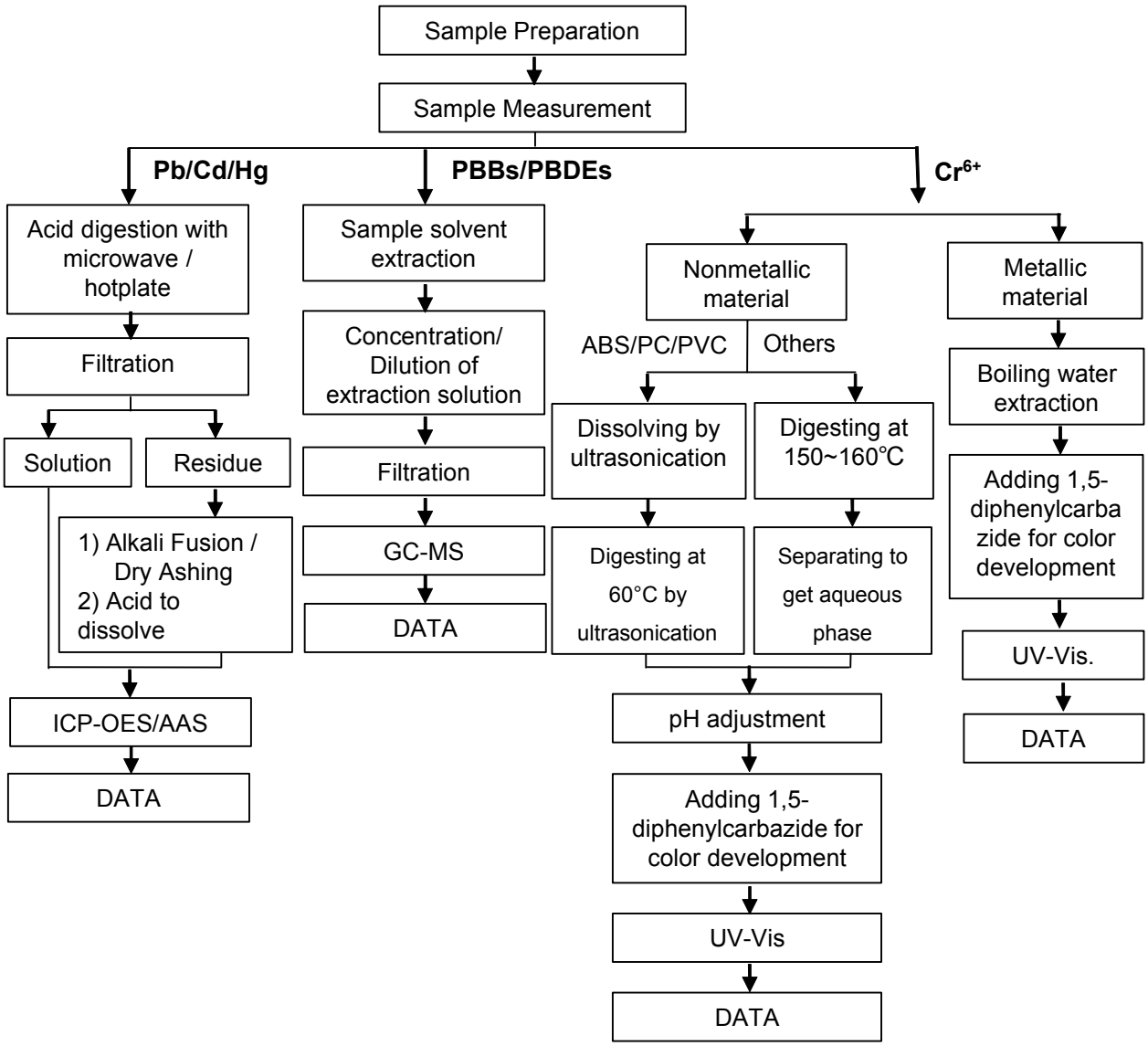
ATTACHMENTS

Pb/Cd/Hg/Cr^{6+}/PBBs/PBDEs Testing Flow Chart

1) Name of the person who made testing: Edith Zhang/Blue Lan/Judy Chen
2) Name of the person in charge of testing: Bella Wang/Qiong Liu
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} and PBBs/PBDEs test method excluded).



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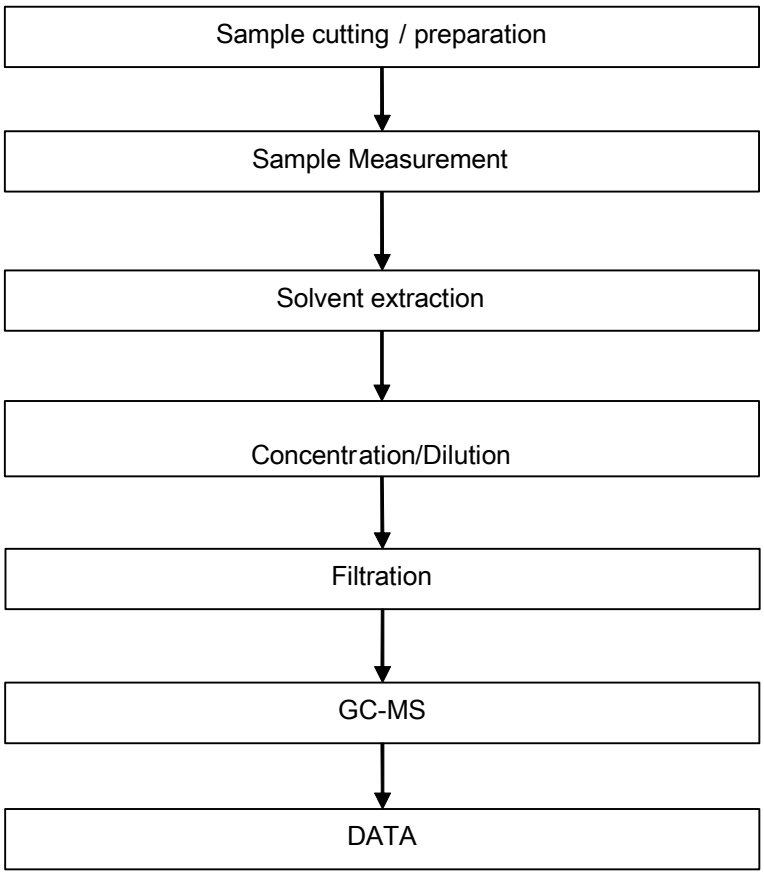
Phthalates Testing Flow Chart

1) Name of the person who made testing: Judy Chen
2) Name of the person in charge of testing: Qiong Liu



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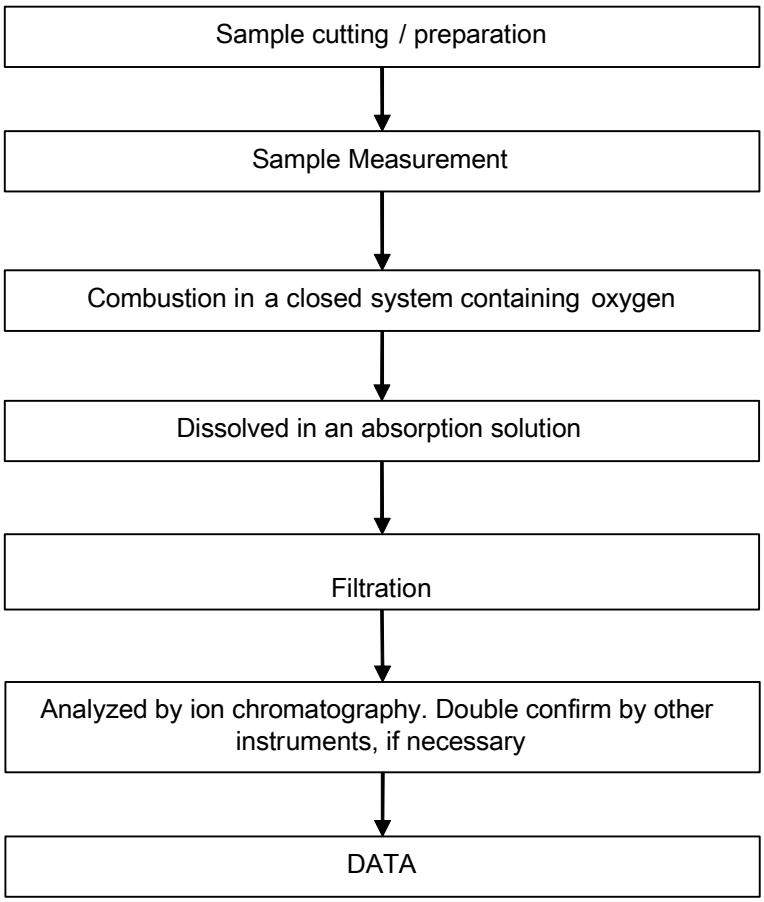
Halogen Testing Flow Chart

1) Name of the person who made testing: Allen Shi
2) Name of the person in charge of testing: Bella Wang



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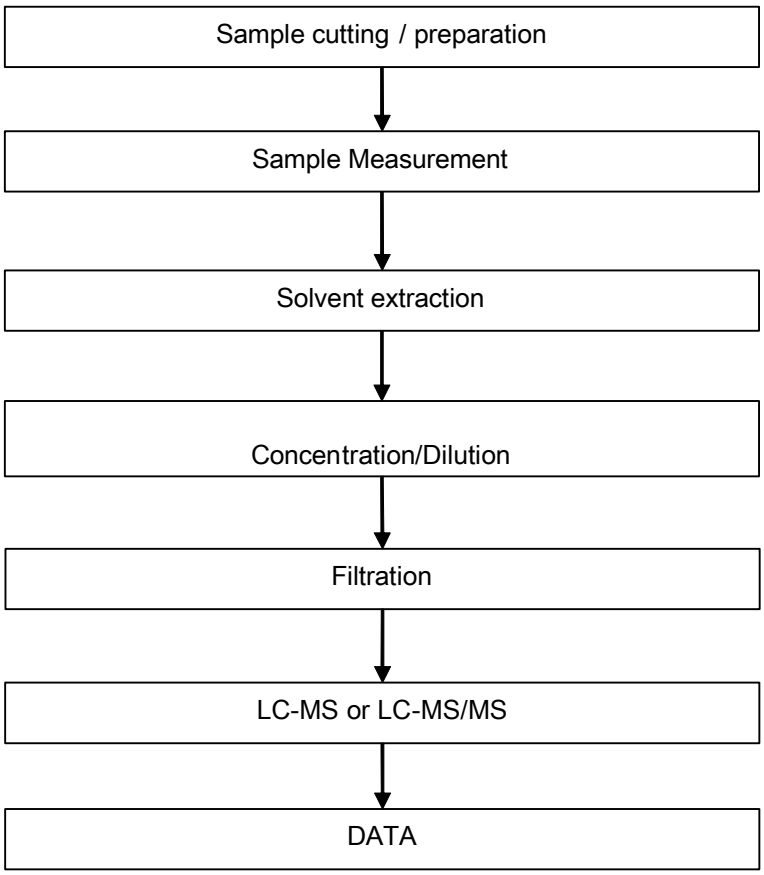
PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Olivia Li
2) Name of the person in charge of testing: Qiong Liu



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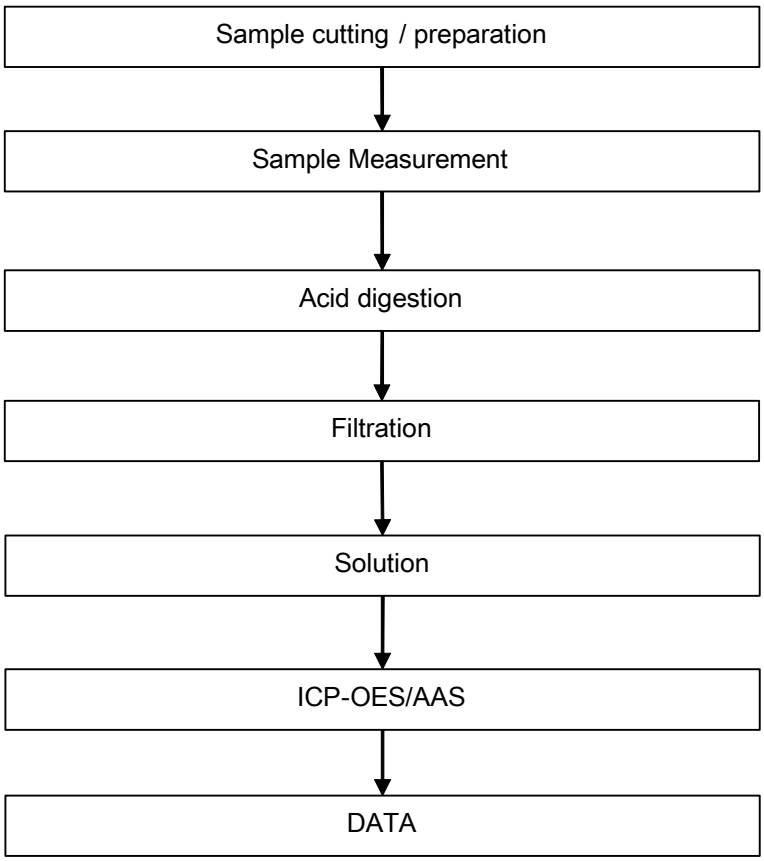
Elementary Testing Flow Chart

1) Name of the person who made testing: Edith Zhang
2) Name of the person in charge of testing: Bella Wang



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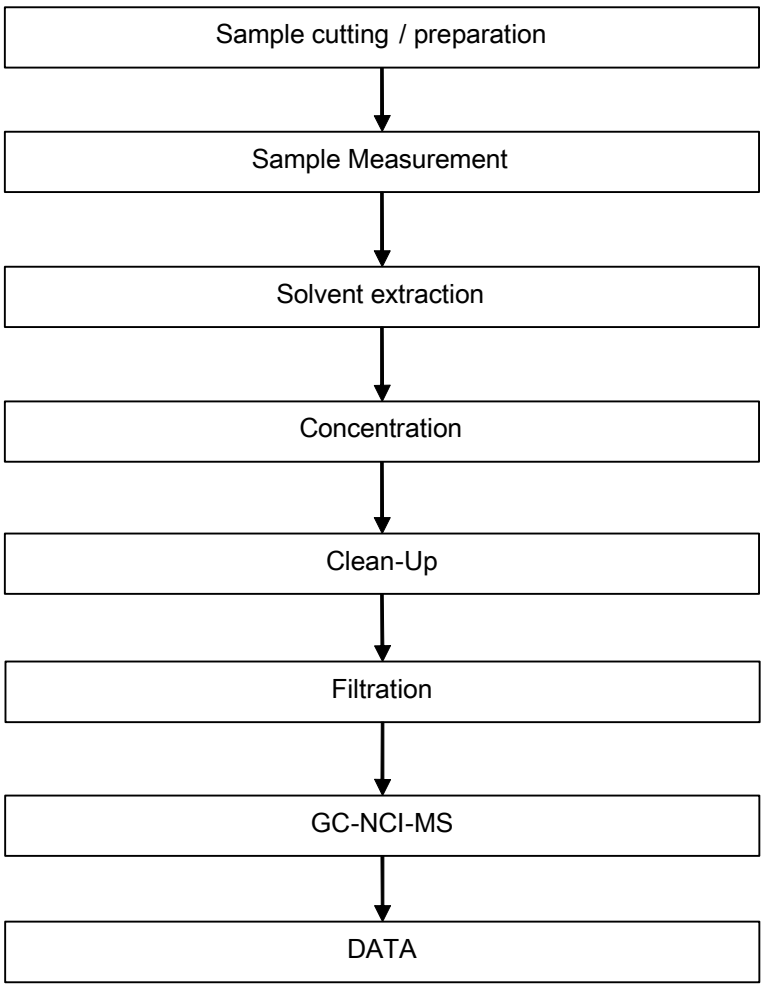
SCCP/MCCP/LCCP Testing Flow Chart

1) Name of the person who made testing: Mina Chan
2) Name of the person in charge of testing: Qiong Liu



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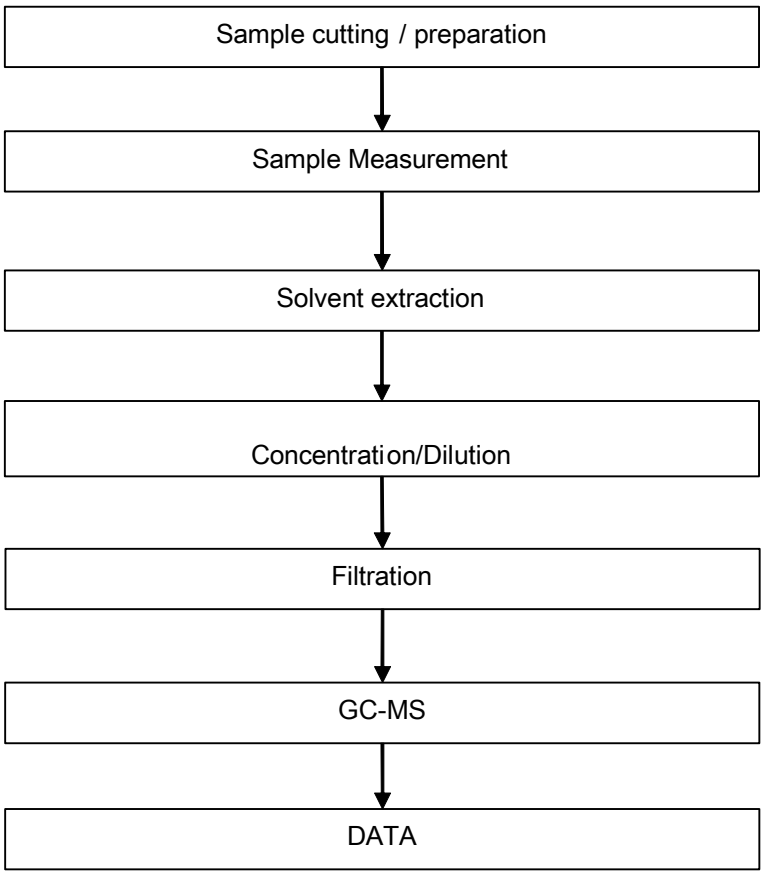
HBCDD Testing Flow Chart

1) Name of the person who made testing: Judy Chen
2) Name of the person in charge of testing: Qiong Liu



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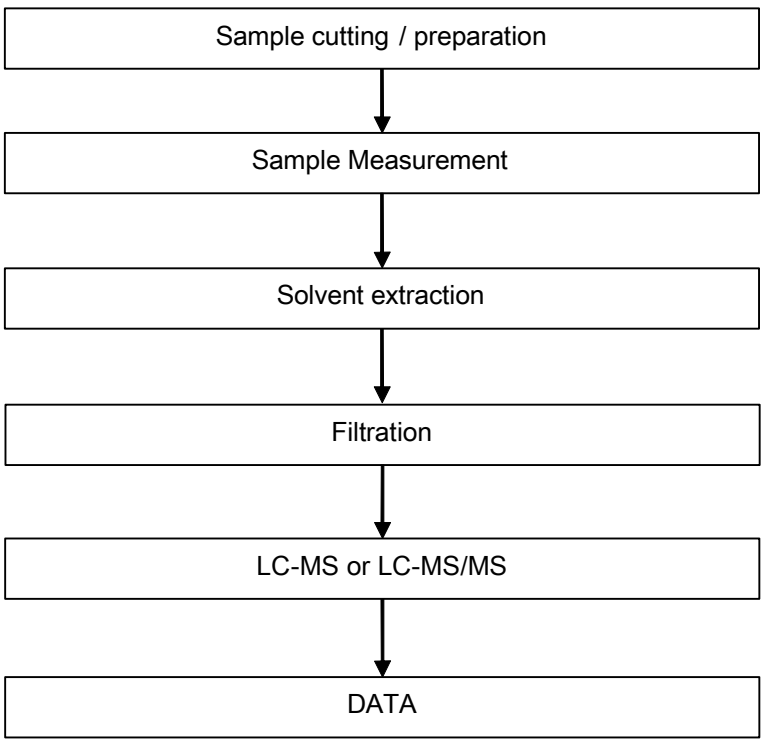
TBBP-A Testing Flow Chart

1) Name of the person who made testing: Olivia Li
2) Name of the person in charge of testing: Qiong Liu



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Sample photo:

CAN22-073143.003

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