

Test Report

Report No. A2180095935101002

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Applicant HYSOL HUAWEI ELECTRONICS CO., LTD.

Address NO.8 ZHENHUA ROAD, HIGH-TECH INDUSTRIAL DEVELOPMENT ZONE, LIANYUNGANG, JIANGSU

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

Sample Name Mold Compound

Part No. GR 360

Sample Received Date Jun. 14, 2018

Testing Period Jun. 14, 2018 to Jun. 22, 2018

Test Requested As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Beryllium(Be), Antimony(Sb), Phosphorus(P), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Phthalates, Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonates (PFOS), Polyvinyl Chloride (PVC), Polycyclic Aromatic Hydrocarbons (PAHs), Tetrabromobisphenol A (TBBP-A), Hexabromocyclododecane (HBCDD) in the submitted sample(s).

Test Method/Test Result(s) Please refer to the following page(s).

Tested by

Cherry

Reviewed by

Taoying

Approved by

Su Hongwei

Date

Jun. 22, 2018

Su Hongwei

Senior Laboratory Manager

No. R293031340

Centre Testing International Pinbiao(Shanghai) Co., Ltd.

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检验检测专用章
Inspection & Testing Services

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Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates	IEC 62321-8:2017	GC-MS
Beryllium(Be)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Antimony(Sb)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Phosphorus(P)	Refer to US EPA 3052:1996 & US EPA 6010D:2014	ICP-OES
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Perfluorooctanoic Acid (PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Perfluorooctane Sulfonates (PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Polyvinyl Chloride (PVC)	JY/T 001:1996	FT-IR
Polycyclic Aromatic Hydrocarbons (PAHs)	AfPS GS 2014:01 PAK	GC-MS
Tetrabromobisphenol A (TBBP-A)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3550C:2007 & US EPA 8270D:2014	GC-MS

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Test Result(s)

Tested Item(s)	Result	MDL
Lead(Pb) CAS#:7439-92-1	N.D.	2 mg/kg
Cadmium(Cd) CAS#:7440-43-9	N.D.	2 mg/kg
Mercury(Hg) CAS#:7439-97-6	N.D.	2 mg/kg
Hexavalent Chromium(Cr(VI)) CAS#:18540-29-9	N.D.	8 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl CAS#:92-66-0	N.D.	5 mg/kg
Dibromobiphenyl CAS#:59261-08-4	N.D.	5 mg/kg
Tribromobiphenyl CAS#:115245-07-3	N.D.	5 mg/kg
Tetrabromobiphenyl CAS#:60044-24-8	N.D.	5 mg/kg
Pentabromobiphenyl CAS#:59080-39-6	N.D.	5 mg/kg
Hexabromobiphenyl CAS#:60044-26-0	N.D.	5 mg/kg
Heptabromobiphenyl CAS#:67733-52-2	N.D.	5 mg/kg
Octabromobiphenyl CAS#:27858-07-7	N.D.	5 mg/kg
Nonabromobiphenyl CAS#:69278-62-2	N.D.	5 mg/kg
Decabromobiphenyl CAS#:13654-09-6	N.D.	5 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers(PBDEs)		
Monobromodiphenyl ether CAS#:101-55-3	N.D.	5 mg/kg
Dibromodiphenyl ether CAS#:2050-47-7	N.D.	5 mg/kg
Tribromodiphenyl ether CAS#:147217-78-5	N.D.	5 mg/kg
Tetrabromodiphenyl ether CAS#:5436-43-1	N.D.	5 mg/kg
Pentabromodiphenyl ether CAS#:60348-60-9	N.D.	5 mg/kg
Hexabromodiphenyl ether CAS#:68631-49-2	N.D.	5 mg/kg
Heptabromodiphenyl ether CAS#:207122-16-5	N.D.	5 mg/kg
Octabromodiphenyl ether CAS#:337513-72-1	N.D.	5 mg/kg
Nonabromodiphenyl ether CAS#:63387-28-0	N.D.	5 mg/kg
Decabromodiphenyl ether CAS#:1163-19-5	N.D.	5 mg/kg

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Tested Item(s)	Result	MDL
Halogen(s)		
Fluorine(F) CAS#: 7782-41-4	N.D.	10 mg/kg
Chlorine(Cl) CAS#: 7782-50-5	127 mg/kg	10 mg/kg
Bromine(Br) CAS#: 7726-95-6	N.D.	10 mg/kg
Iodine(I) CAS#: 7553-56-2	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
Phthalates		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butylbenzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
Hexabromocyclododecane (HBCDD) CAS#:25637-99-4, 3194-55-6, 134237-51-7, 134237-50-6, 134237-52-8	N.D.	5 mg/kg
Tetrabromobisphenol-A (TBBP-A) CAS#:79-94-7	N.D.	5 mg/kg
Perfluorooctane Sulfonates(PFOS) CAS#:1763-23-1	N.D.	5 mg/kg
Perfluorooctanoic Acid(PFOA) CAS#:335-67-1	N.D.	5 mg/kg
Polyvinyl Chloride (PVC) CAS#:9002-86-2	Negative	/
Phosphorus(P) CAS#: 7723-14-0	87 mg/kg	50 mg/kg
Antimony(Sb) CAS#:7440-36-0	N.D.	10 mg/kg
Beryllium(Be) CAS#:7440-41-7	N.D.	10 mg/kg

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Tested Item(s)	Result	MDL
Phthalates		
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
Di-n-hexyl phthalate (DNHP) CAS#:84-75-3	N.D.	50 mg/kg
Dimethyl phthalate (DMP) CAS#:131-11-3	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
Dipentyl phthalate (DPP) CAS#:131-18-0	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	50 mg/kg
Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	50 mg/kg
Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg
Dinonyl phthalate (DNP) CAS#:84-76-4	N.D.	50 mg/kg
Diethyl phthalate (DEP) CAS#:84-66-2	N.D.	50 mg/kg
Diisononyl adipate (DINA) CAS#:33703-08-1	N.D.	50 mg/kg
Dicyclohexyl phthalate (DCHP) CAS#:84-61-7	N.D.	50 mg/kg
Diheptyl phthalate (DHP) CAS#:3648-21-3	N.D.	50 mg/kg
Dipropyl phthalate (DPrP) CAS#:131-16-8	N.D.	50 mg/kg
Diphenyl phthalate (DPhP) CAS#:84-62-8	N.D.	50 mg/kg
Bis(2-methoxyethyl) phthalate (DMEP) CAS#:117-82-8	N.D.	50 mg/kg

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Limits for PAHs content (mg/kg) for material of (grip) surfaces, which are to be categorized on account of the results of the risk analysis.

Parameters	Category 1	Category 2		Category 3	
	Materials intended to be put in the mouth or materials of toys with foreseeable long-term skin contact (longer than 30 seconds)	Materials not covered by category 1, with foreseeable skin contact for longer than 30 seconds (long-term skin contact) or repeated short-term skin contact [#]		Materials not covered by category 1 or 2 with foreseeable skin contact up to 30 seconds (short term skin contact)	
		Toys covered by Directive 2009/48/EC	Other products	Toys covered by Directive 2009/48/EC	Other products
Benzo[a]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[e]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[a]anthracene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[b]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[j]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[k]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Chrysene	<0.2	<0.2	<0.5	<0.5	<1
Dibenz[a,h]anthracene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[g,h,i]perylene	<0.2	<0.2	<0.5	<0.5	<1
Indenol[1,2,3-cd]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene	<1 Sum	<5 Sum	<10 Sum	<20 Sum	<50 Sum
Naphthalene	<1	<2		<10	
Sum 18 PAHs	<1	<5	<10	<20	<50

[#] Formulation "of repeated short-term skin contact" REACH Annex XVII No. 50 supplement (REGULATION (EU) No.1272/2013)

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Tested Item(s)	Result	MDL
Polycyclic Aromatic Hydrocarbons (PAHs)		
Naphthalene CAS#:91-20-3	N.D.	0.2 mg/kg
Acenaphthylene CAS#:208-96-8	0.4 mg/kg	0.2 mg/kg
Acenaphthene CAS#:83-32-9	N.D.	0.2 mg/kg
Fluorene CAS#:86-73-7	N.D.	0.2 mg/kg
Phenanthrene CAS#:85-01-8	1.0 mg/kg	0.2 mg/kg
Anthracene CAS#:120-12-7	N.D.	0.2 mg/kg
Fluoranthene CAS#:206-44-0	0.4 mg/kg	0.2 mg/kg
Pyrene CAS#:129-00-0	N.D.	0.2 mg/kg
Benzo[a]anthracene CAS#:56-55-3	N.D.	0.2 mg/kg
Chrysene CAS#:218-01-9	N.D.	0.2 mg/kg
Benzo[b]fluoranthene CAS#:205-99-2	N.D.	0.2 mg/kg
Benzo[k]fluoranthene CAS#:207-08-9	N.D.	0.2 mg/kg
Benzo[a]pyrene CAS#:50-32-8	N.D.	0.2 mg/kg
Indeno[1,2,3-cd]pyrene CAS#:193-39-5	N.D.	0.2 mg/kg
Dibenzo[a,h]anthracene CAS#:53-70-3	N.D.	0.2 mg/kg
Benzo[g,h,i]perylene CAS#:191-24-2	N.D.	0.2 mg/kg
Benzo[j]fluoranthene CAS#:205-82-3	N.D.	0.2 mg/kg
Benzo[e]pyrene CAS#:192-97-2	N.D.	0.2 mg/kg
Sum (Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene)	1.8 mg/kg	/
Sum 18 PAHs	1.8 mg/kg	/

Tested Sample/Part Description Black solid

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Beryllium, Antimony, Phosphorus.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-Negative = Not contained Polyvinyl Chloride(PVC)

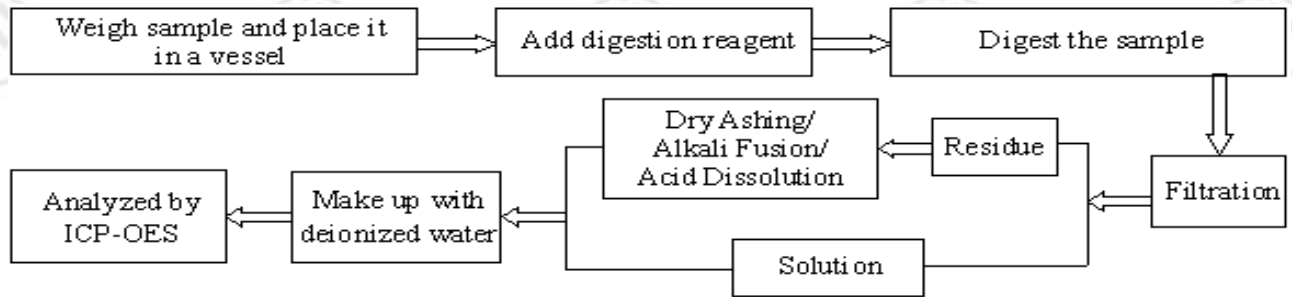
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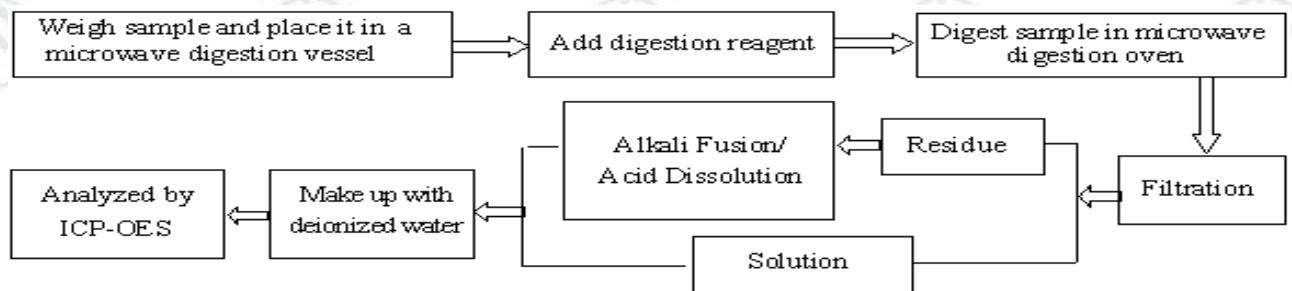
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Test Process

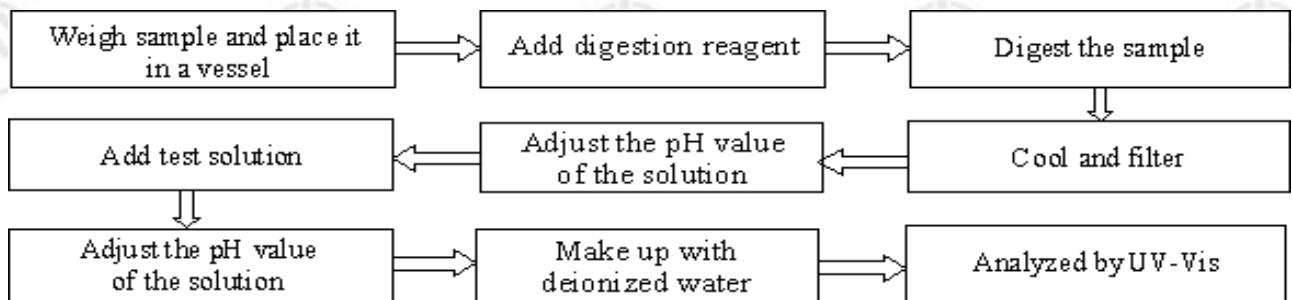
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



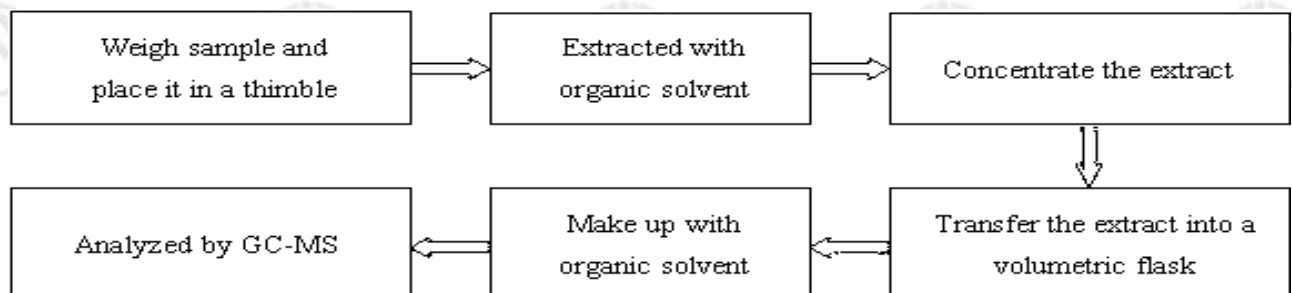
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))



4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)

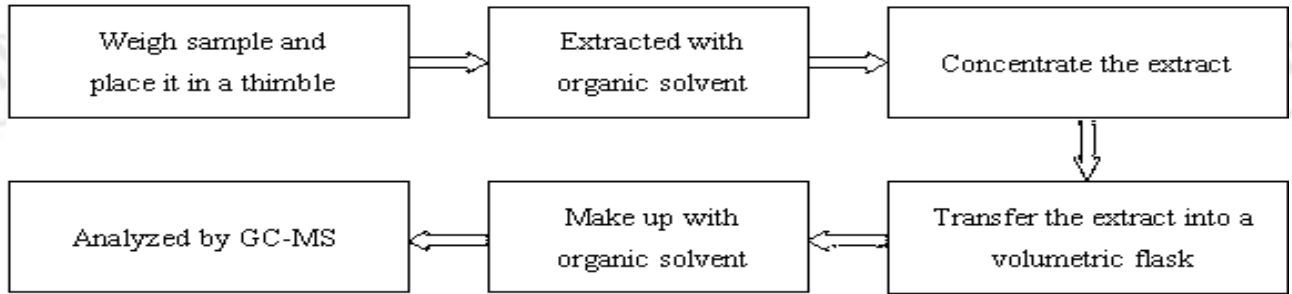


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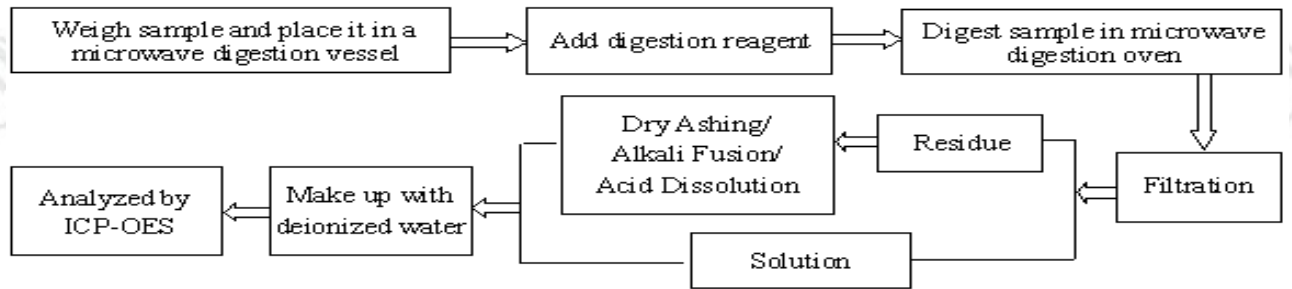
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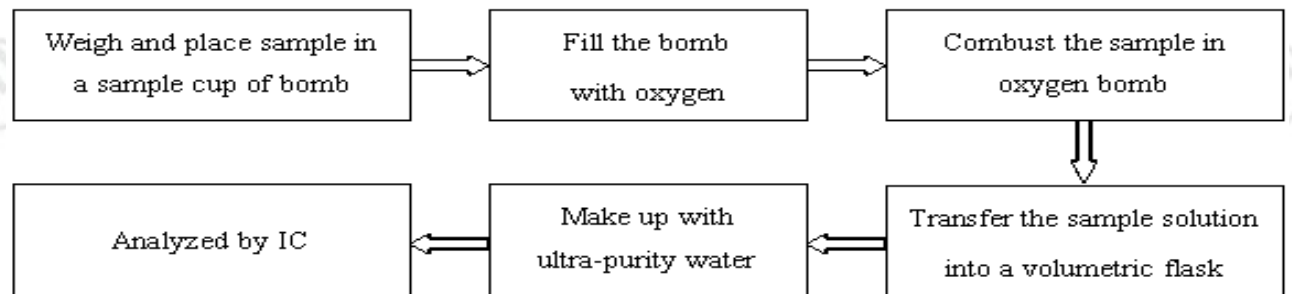
5. Phthalates



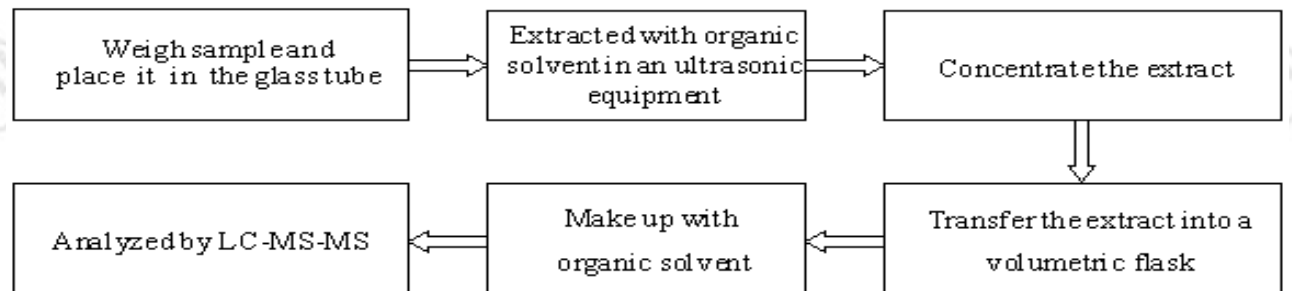
6. Beryllium(Be),Antimony(Sb),Phosphorus(P)



7. Fluorine (F),Chlorine (Cl), Bromine (Br),Iodine (I)



8. Perfluorooctanoic Acid (PFOA),Perfluorooctane Sulfonates (PFOS)

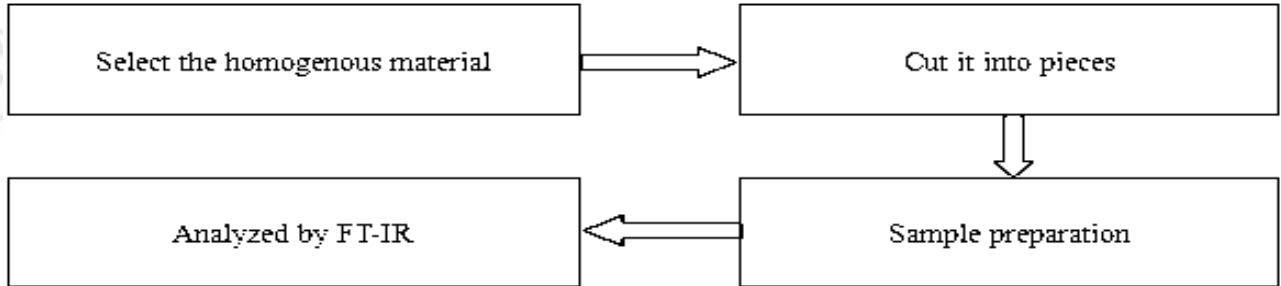


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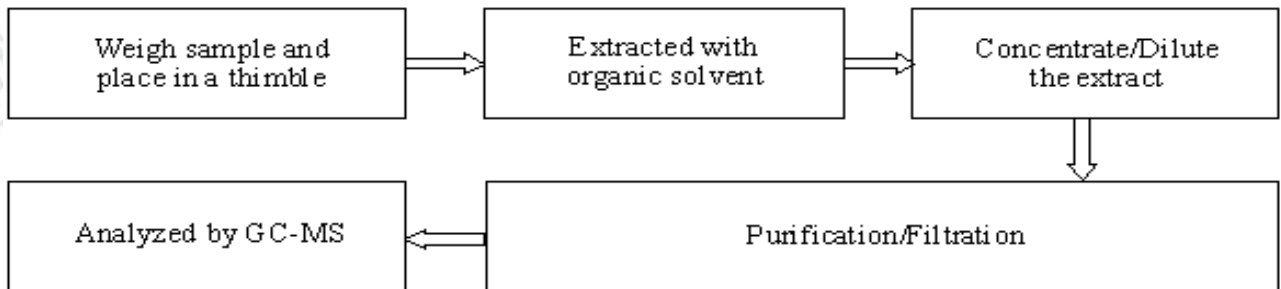
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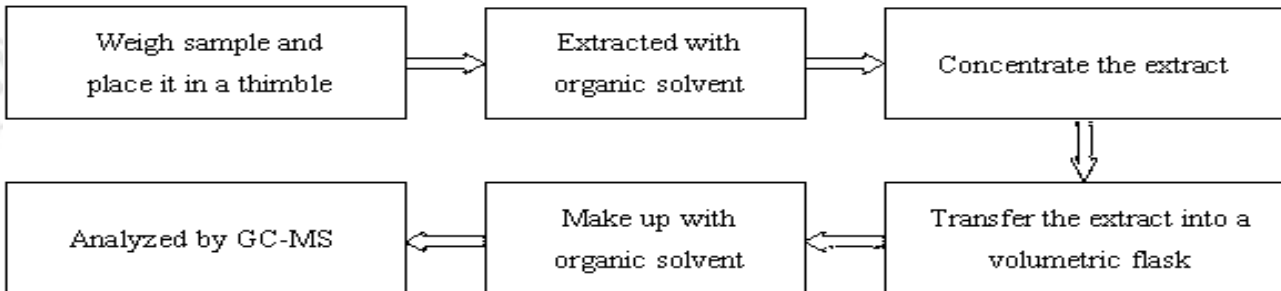
9. Polyvinyl Chloride (PVC)



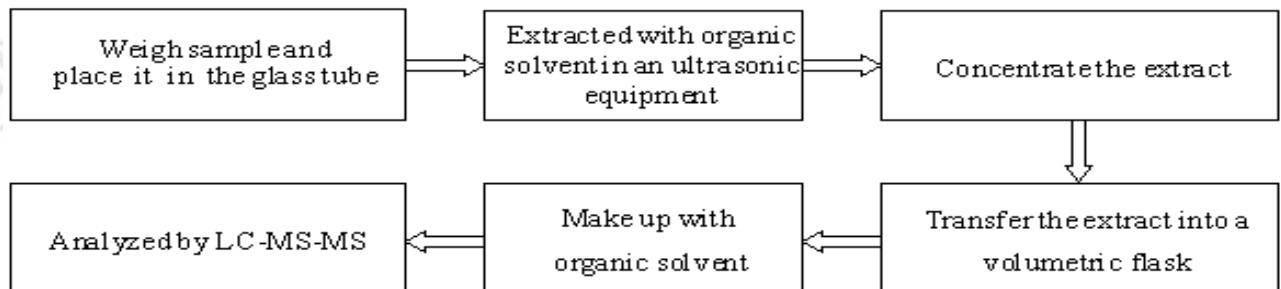
10. Polycyclic Aromatic Hydrocarbons (PAHs)



11. Hexabromocyclododecane (HBCDD)



12. Tetrabromobisphenol A (TBBP-A)

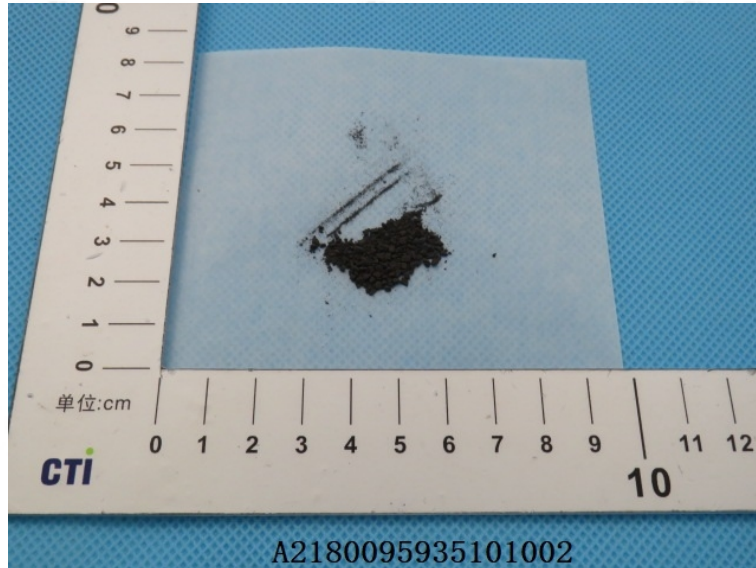


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Photo(s) of the sample(s)



*** End of Report ***

Statement:

1. This report is considered invalidated without approval signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.