TEST REPORT

Applicant:	**Shenzhen Shangpinyi Digital Technology Co., Ltd**
Address:	**No. 5, Fourth Lane, Fengweikeng Old Village, Buji Street, Longgang District, Shenzhen**
Manufacturer:	**Shenzhen Shangpinyi Digital Technology Co., Ltd**
Address:	**No. 5, Fourth Lane, Fengweikeng Old Village, Buji Street, Longgang District, Shenzhen**

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

Sample Name:	**Penguin Warm Hand Treasure**
Model Number:	**N03**
Sample Received Date:	**September 09, 2023**
Testing Period:	**September 10~20, 2023**
Report No.:	**XKS2023R09040009**
Test Requested:	1. As specified by client, to screen Lead (Pb), Cadmium (Cd), Mercury (Hg), Chromium (Cr)and Bromine (Br) in the submitted sample(s)by XRF. 2. As specified by client ,when screening results exceed the XRF screening limit in IEC62321-1:2013 Edition 1.0,further use of wet chemical methods are required to test Lead(Pb),Cadmium(Cd),Mercury(Hg),Hexavalent Chromium(Cr(VI)),Polybrominated Biphenyls(PBBs),Polybrominated Diphenyl Ethers(PBDEs),Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutylphthalate (DBP) , and Diisobutyl phthalate (DIBP) in the submitted sample(s).
Test Method:	Please refer to the following page(s).
Test Result(s):	Please refer to the following page(s).
Test Conclusion:	The test results comply with the limits of RoHS 2.0 Directive (EU) 2015/863 and (EU)2017/2102 amending Annex II to Directive 2011/65/EU.

Compiled by:	Reviewed by:	Approved by:
Wei Yang	Quan Ma Yang	Quan Li

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen Xunke Standards Technical Services Co., LTD

Test Method:

When screening results exceed the XRF screening limit in IEC62321-3-1: 2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl Ethers(PBDEs)

1. XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013

Element	Limit of IEC 62321-3-1:2013 (mg/kg)		
	Polymers	Metals	Composite material
Pb	BL≤(700-3σ) <X <(1300+3σ)≤OL	BL≤(700-3σ) <X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cd	BL≤(70-3σ)<X < (130+3σ) ≤OL	BL≤(70-3σ)<X < (130+3σ) ≤OL	LOD <X<(150+3σ) ≤OL
Hg	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X
Br	BL≤(300-3σ)< X	/	BL≤(250-3σ)< X

Note: BL=Under the XRF screening limit OL=Over the XRF screening limit
X=The symbol"X"marks the region where further investigation is necessary.
3σ =The reproducibility of analytical instruments LOD= Detection limit

2. Chemical Test

Test item	Test method	Test instrument	MDL	Limit
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	10 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	10 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	10 mg/kg	1000 mg/kg
Hexavalent Chromium(Cr(VI))	IEC62321-7-1:2015 Ed.1.0	UV-Vis	0.10 μg/cm^2	1000 mg/kg
	IEC 62321-7-2:2017 Ed.1.0		10 mg/kg	
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	100 mg/kg	1000 mg/kg
Polybrominated, Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	100 mg/kg	1000 mg/kg
Bis-(2-ethylhexyl) Phthalate (DEHP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Benzyl butyl Phthalate (BBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Dibutyl Phthalate (DBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Diisobutyl Phthalate(DIBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg

Test Results:

Sample No.	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
1	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
2	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
3	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
4	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	

Sample No.	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
5	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
6	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
7	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
8	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	

Sample No.	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
9	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
10	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
11	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
12	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	

Sample No.	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
13	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
14	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
15	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
16	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	

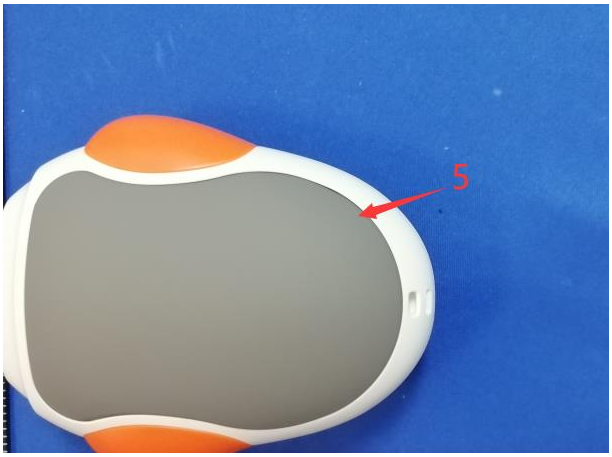
Sample No.	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
17	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
18	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
19	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
20	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	

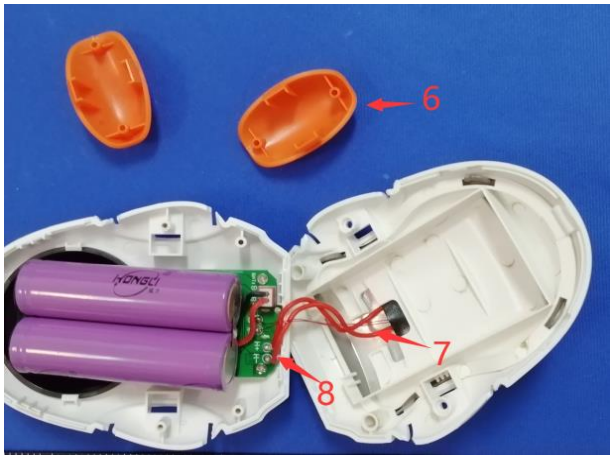
Sample No.	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
21	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
22	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
23	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	
24	Pb	ND	NT	Pass
	Cd	ND	NT	
	Hg	ND	NT	
	Cr(Cr(VI))	ND	NT	
	Br(PBBs&PBDEs)	ND	NT	
	DBP	NT	ND	
	DEHP	NT	ND	
	BBP	NT	ND	
	DIBP	NT	ND	

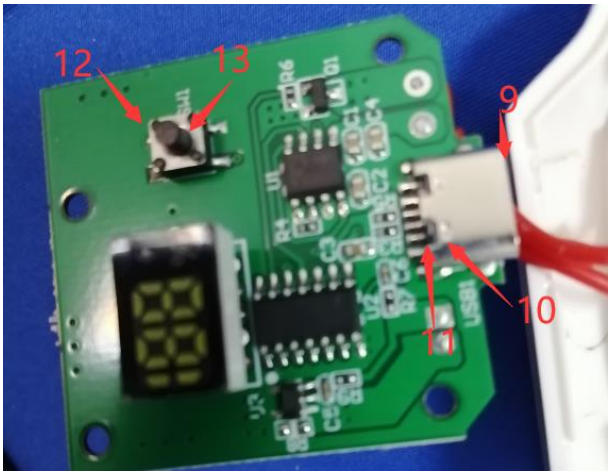
Test Components

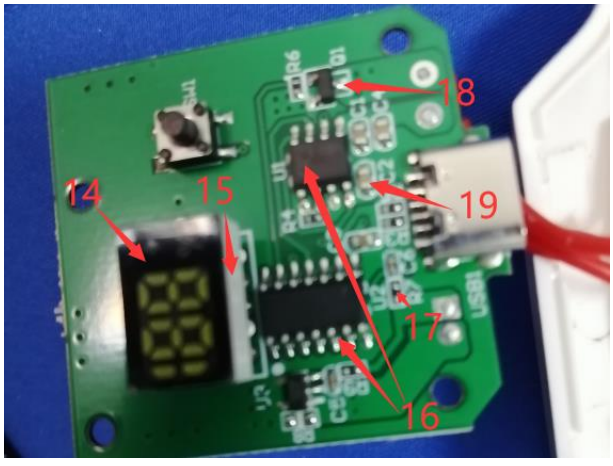
1 screw
2 white plastic
3 black plastic
4 yellow plastic
5 gray plastic
6 yellow plastic
7 red line
8 bright metal
9 type-c metal
10 type-c plastic
11 type-c pin
12 key metal
13 key plastic
14 led display
15 led
16 chip
17 resistance
18 triode
19 capacitance
20 pcb
21 white plastic
22 red line
23 red plastic
24 metal shell

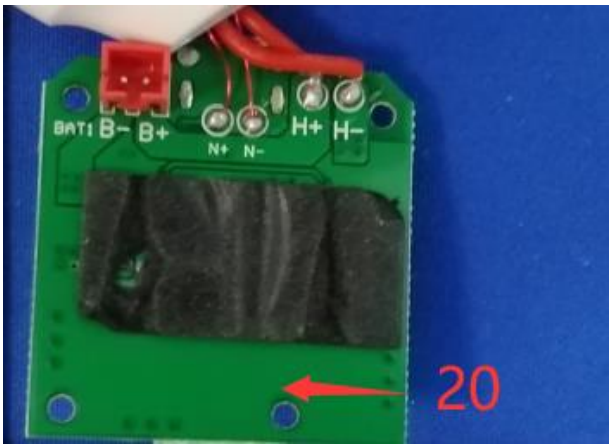
Photos for Test Sample:

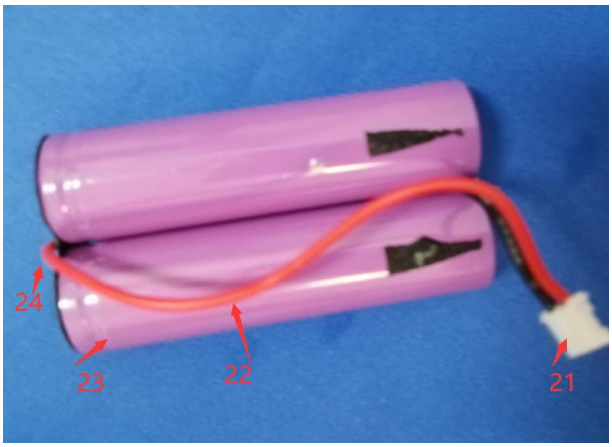









BAT1
B-
B+
N+
N-
H+
H-
20


24
23
22
21

Note: 1.ND = Not Detected (<MDL) MDL = Method Detection Limit

mg/kg = ppm =0.0001% NT=Not tested

2. BL = Under the XRF screening limit

IN = Further chemical test will be conducted when the screening result inconclusive

OL = Further chemical test will be conducted while the result is above the screening limit.

3. For metal samples, the sample is negative for Cr(VI), if the Cr(VI) concentration is less than 0.10 μg/cm², the coating is considered a non- Cr(VI) based coating;

The sample is positive for Cr(VI), if the Cr(VI) concentration is greater than 0.13 μg/cm², The sample coating is considered to contain Cr(VI);

The result is considered to be inconclusive, the Cr(VI) concentration is between the 0.10 μg/cm² and 0.13 μg/cm²,Unavoidable coating variations may influence the determination. Because the storage condition and production date of the sample are not known, the test results of the sample of hexavalent chromium can only represent the state of hexavalent chromium in the samples tested.

Remark: 1. The screening results are only used for reference.

2. When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.

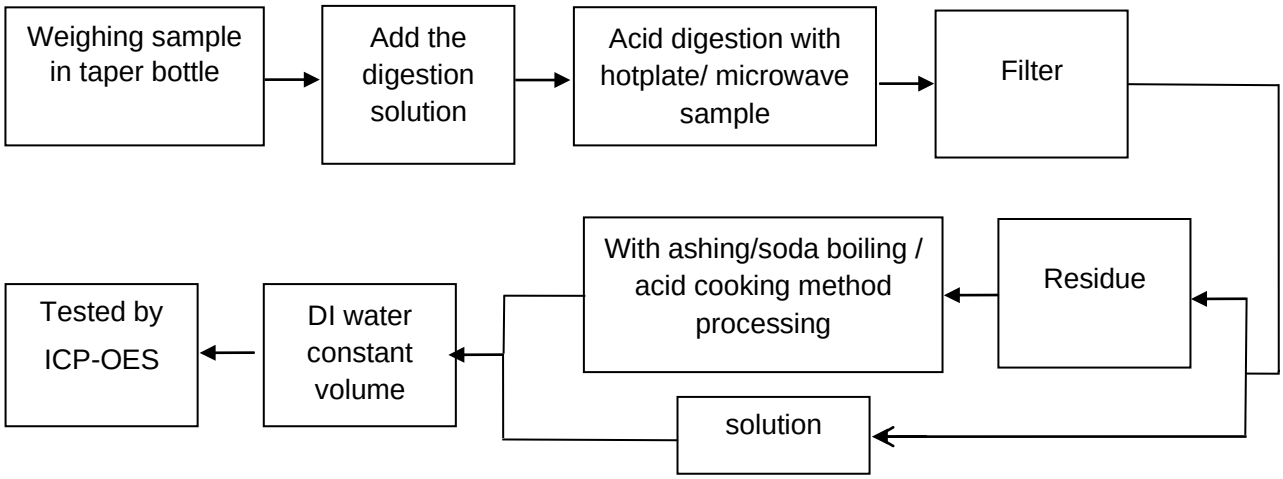
3. According to the client's statement , the material of the sample(s) comply with RoHS directive 2011/65/EU Annex III Exemption, Corresponding exemption clause:

#1 6(c) Lead is exempted as copper alloy containing up to 4% lead by weight.

#2 7(a) Lead is exempted as Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead).

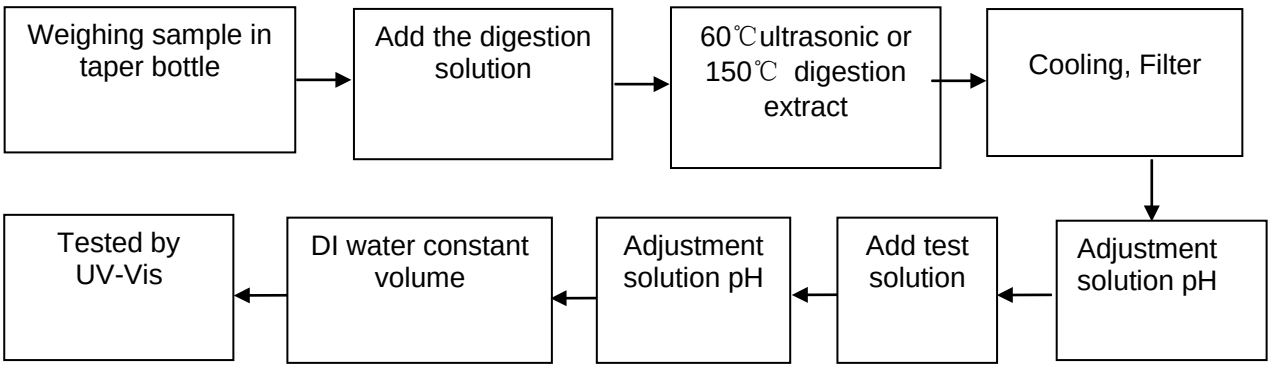
Test Flow:

1. Lead(Pb), Cadmium(Cd) , Mercury (Hg)

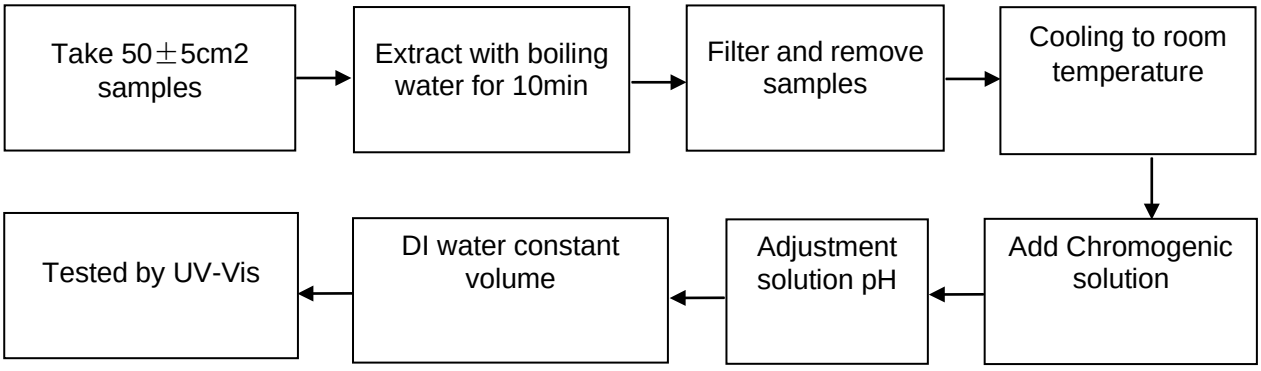


2. Hexavalent Chromium(Cr(VI))

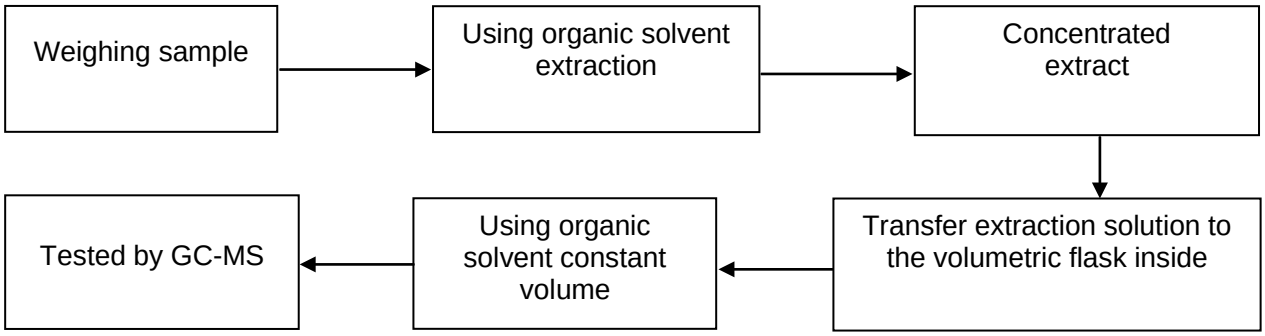
2.1 Non- metal sample(s)



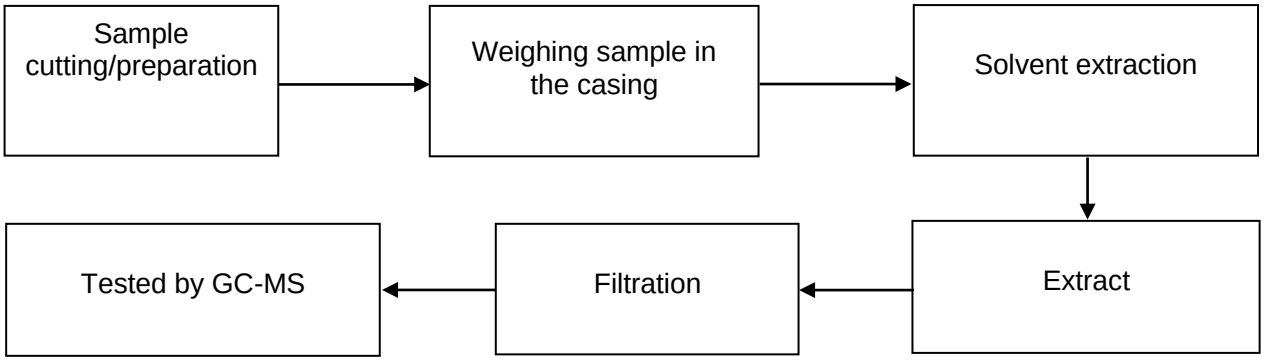
2.2 Metal sample(s)



3. PBBs/ PBDEs



4. Phthalates



Statement
1.This report is considered invalid without approved signature and special;
2.The Applicant name and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which Xunke's hasn't verified;
3.The result(s) shown in this report refer(s) only to the sample(s) tested;
4.Without written approval of Xunke's, this report can't be reproduced except in full.

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