

TEST REPORT

Applicant: Shenzhen Flytech(HUALET) Co.,Ltd.

Address: Floor 2nd,Building 3,Ximen Industrial Park,Liaokeng,ShiyanTown,Baoan District,Shenzhen City,P.R.China

EUT Name: MOUSE

Model No. : HM-815,HM-818,HM-817,HM-820,HM-900,HM-890,HM-916, SS-212U,SS-210U,SS-211U

Brand Name: HUALET

Test Period: 09 Mar 2020 To 16 Mar 2020

Manufacturer: Shenzhen Flytech(HUALET) Co.,Ltd.

Address: Floor 2nd,Building 3,Ximen Industrial Park,Liaokeng,ShiyanTown,Baoan District,Shenzhen City,P.R.China

Remark: According to customer's requirements, according to ROHS Directive 2011/65/EU Appendix II Amendment Directive (EU) 2015/863, samples were screened by IEC 62321-3-1:2013 for XRF scanning, and samples exceeding the screening limit were further confirmed by chemical testing methods for Cadmium,Lead,Mercury,Cr(VI),PBBs,PBDEs,DBP,BBP, DEHP,DIBP.

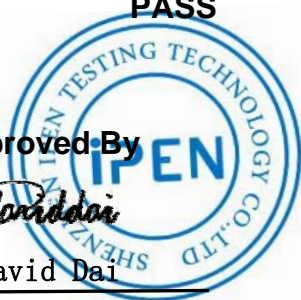
Conclusions: **PASS**

Approved By



David Dai

Manager



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Test Results:

1. XRF Scanning Test

IEC 62321-3-1:2013 XRF Scanning Limits for Controlled Elements

Test element	Limits required by IEC 62321-3-1:2013 (mg/kg)		Method Detection Limit	
	Polymers and Metals	Synthetic material	Polymer	Other materials
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$	10mg/kg	50mg/kg
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$	10mg/kg	50mg/kg
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$	10mg/kg	50mg/kg
Cr	$BL \leq (700-3\sigma) \leq X$	$BL \leq (500-3\sigma) \leq X$	10mg/kg	50mg/kg
Br	$BL \leq (300-3\sigma) \leq X$	$BL \leq (250-3\sigma) \leq X$	10mg/kg	50mg/kg

Note: BL = under XRF scan limit

OL = Chemistry test when the result exceeds the scan limit

X = X represents an area, and the value that falls in that area needs further confirmation.

3σ = repeatability of analytical instruments

LOD = detection limit

2. Chemical Test

Test Method:

Test Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
Hexavalent Chromium (CrVI)	IEC 62321:2008 Ed.1 Annex C	UV-Vis
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates(DBP,BBP,DEHP,DIBP)	IEC 62321-8:2017	GC-MS

The maximum permissible limit is quoted from the Directive 2015/863-Amendment of EU RoHS Directive 2011/65/EU (R0HS 2.0) Annex II.

ROHS Restricted Substances	Maximum Concentration Value (by weight in homogenous materials)
Lead (Pb)	0.1%
Cadmium (Cd)	0.01%
Mercury (Hg)	0.1%
Hexavalent Chromium (Cr VI)	0.1%
Polybrominated biphenyls (PBBs)	0.1%
Polybrominated diphenylethers (PBDEs)	0.1%
Dibutyl Phthalate (DBP)	0.1%
Benzylbutyl Phthalate (BBP)	0.1%
Bis-(2-ethylhexyl) Phthalate (DEHP)	0.1%
Diisobutyl Phthalate (DIBP)	0.1%

Sample Description:

No.	Description	Name
1	Black Plastic	Shell
2	Black Plastic	Pulley
3	White	Printing ink
4	White	Sticker
5	Black PVC	Wire rod
6	White metal	Tin solder
7	Black	Sponge
8	Green	PCB
9	Black	Components
10	White	light-emitting diode

Test Result(No.1)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.2)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.3)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.4)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.5)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.6)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	/	/	Pass
Dibromobiphenyl	/	/	Pass
Tribromobiphenyl	/	/	Pass
Tetrabromobiphenyl	/	/	Pass
Pentabromobiphenyl	/	/	Pass
Hexabromobiphenyl	/	/	Pass
Heptabromobiphenyl	/	/	Pass
Octabromobiphenyl	/	/	Pass
Nonabromobiphenyl	/	/	Pass
Decabromobiphenyl	/	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	/	/	Pass
Dibromodiphenyl ether	/	/	Pass
Tribromodiphenyl ether	/	/	Pass
Tetrabromodiphenyl ether	/	/	Pass
Pentabromodiphenyl ether	/	/	Pass
Hexabromodiphenyl ether	/	/	Pass
Heptabromodiphenyl ether	/	/	Pass
Octabromodiphenyl ether	/	/	Pass
Nonabromodiphenyl ether	/	/	Pass
Decabromodiphenyl ether	/	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	/	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	/	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	/	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	/	Pass

Test Result(No.7)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.8)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.9)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Test Result(No.10)

Tested Item(s)	XRF Scanning Results	Chemical test (mg/kg)	Conclusion
Lead (Pb)	BL	/	Pass
Cadmium (Cd)	BL	/	Pass
Mercury (Hg)	BL	/	Pass
Hexavalent Chromium (CrVI)	BL	/	Pass
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	BL	/	Pass
Dibromobiphenyl	BL	/	Pass
Tribromobiphenyl	BL	/	Pass
Tetrabromobiphenyl	BL	/	Pass
Pentabromobiphenyl	BL	/	Pass
Hexabromobiphenyl	BL	/	Pass
Heptabromobiphenyl	BL	/	Pass
Octabromobiphenyl	BL	/	Pass
Nonabromobiphenyl	BL	/	Pass
Decabromobiphenyl	BL	/	Pass
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	BL	/	Pass
Dibromodiphenyl ether	BL	/	Pass
Tribromodiphenyl ether	BL	/	Pass
Tetrabromodiphenyl ether	BL	/	Pass
Pentabromodiphenyl ether	BL	/	Pass
Hexabromodiphenyl ether	BL	/	Pass
Heptabromodiphenyl ether	BL	/	Pass
Octabromodiphenyl ether	BL	/	Pass
Nonabromodiphenyl ether	BL	/	Pass
Decabromodiphenyl ether	BL	/	Pass
Phthalates			
Dibutyl phthalate(DBP) CAS#:84-74-2	/	BL	Pass
Butylbenzyl phthalate(BBP) CAS#:85-68-7	/	BL	Pass
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	/	BL	Pass
Diisobutyl phthalate(DIBP) CAS#:84-69-5	/	BL	Pass

Remarks:

- (1) 1 mg/kg=1 ppm = 0.0001%
- (2) MDL=method detection limit
- (3) ND=undetected (< MDL)

- (4) /=Uncontrolled or not applicable
- (5) BL=under XRF scan limit
- (6) IN=Chemistry testing is required when the scan results are uncertain
- (7) OL=Chemistry test when the result exceeds the scan limit
- (8) Negative=no hexavalent chromium chromium Cr(VI),the concentration of hexavalent chromium in the solution extracted with boiling water is less than $0.10 \mu\text{g}/\text{cm}^2$ for samples with surface area of 50cm^2
- (9) Positive=chromium Cr(VI) containing hexavalent chromium.The concentration of chromium Cr(VI) in the solution extracted with boiling water is more than $0.13 \mu\text{g}/\text{cm}^2$ for samples with surface area of 50cm^2 .
- (10) When testing PBBs and PBDEs in samples,XRF can only scan the bromine element in samples;when testing hexavalent chromium in samples,XRF can only scan the chromium element in samples.

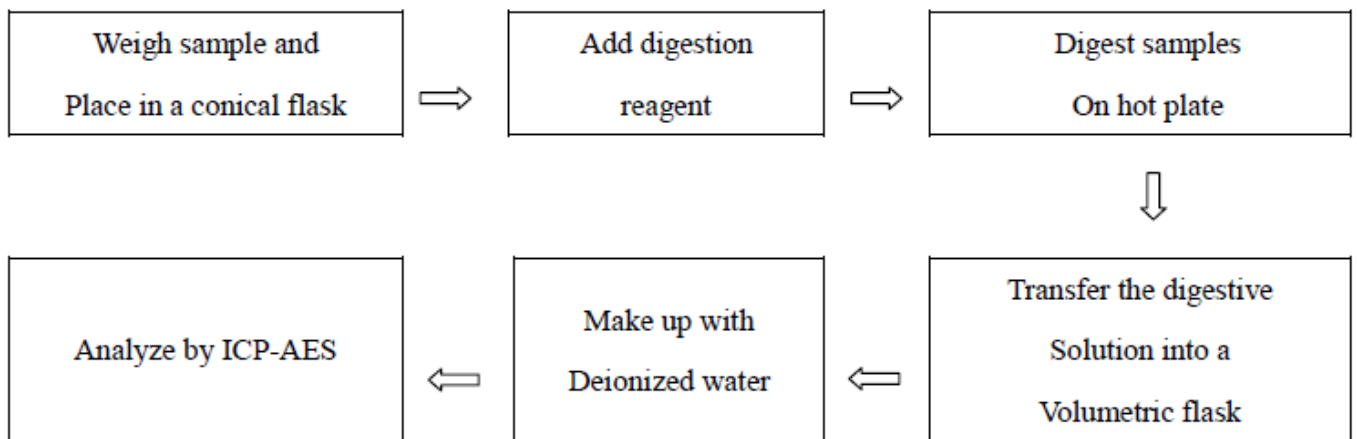
ATTACHMENTS

ROHS Testing Flow Chart

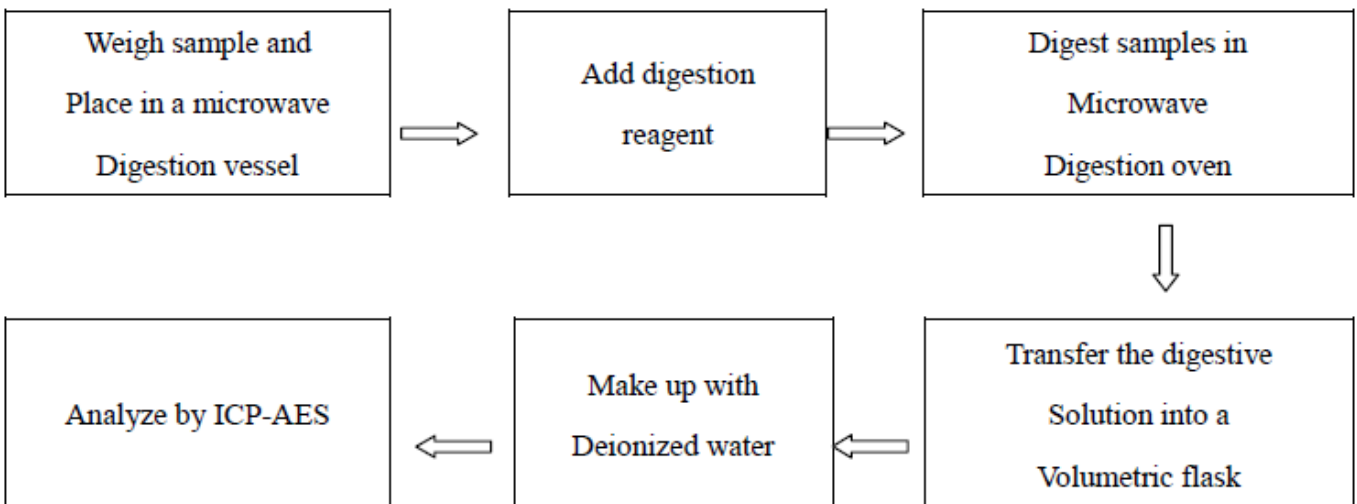
- 1) Name of the person who made testing: Jim Chen
- 2) Name of the person in charge of testing: Jack Wang

Test Process:

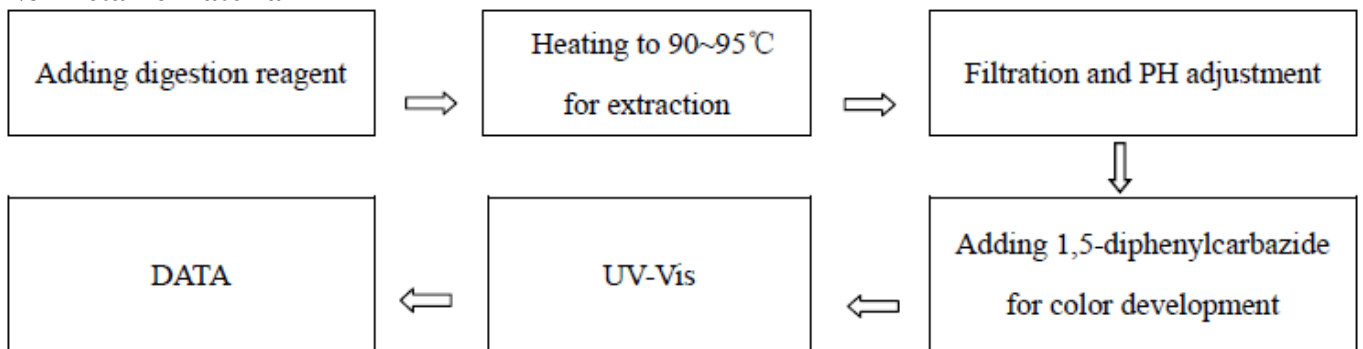
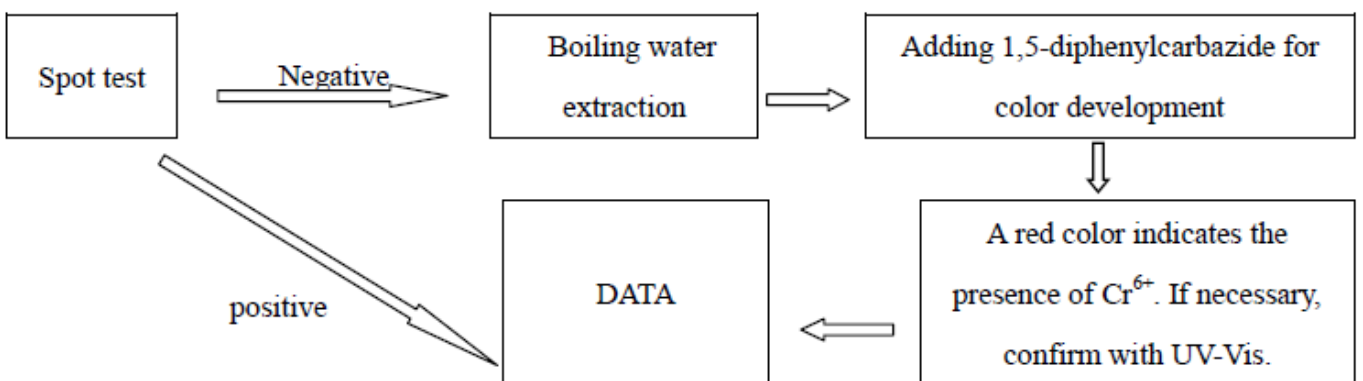
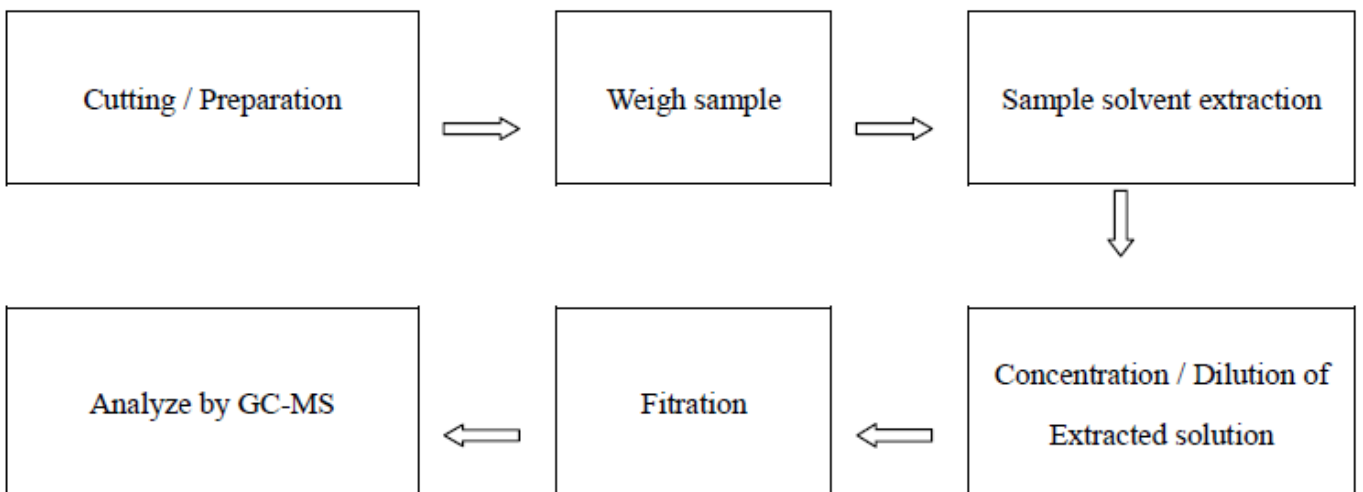
1. Test for Cd/Pb Content



2. Test for Hg Content



3. Test for Chromium(VI)Content

Nonmetallic material**Metallic material****4. Test for DBP,BBP,DEHP,DIBP,PBB,PBDE Content**

Sample photo:



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