

Test Report

Report No.: U01604210415604E

Query Password: QW0162

Date: Apr. 23, 2021

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Applicant: Shenzhen Prodo Technology Co;Ltd**Contact information:** Room# 320B, B building Tianhui Square, Longhua district, Shenzhen**The following sample(s) was (were) submitted and identified by client as:**

Sample Name : Co2 and Smoke Alarm Detecor
Model No. : PT01
Manufacturer : Shenzhen Prodo Technology Co;Ltd
Address : Room# 320B, B building Tianhui Square, Longhua district, Shenzhen
Sample Received Date : Apr. 15, 2021
Testing Period : From Apr. 15, 2021 to Apr. 21, 2021
Test Request : Please refer to next page(s).
Test Result(s) : Please refer to next page(s).

Signed for and on behalf of Shen Zhen UONE Test Co., LTD.

Prepared by



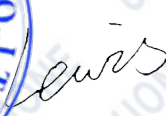
Max Wu

Checked by



Thea Ye

Approved by



Lewis Liu



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Summary of test results:**TEST REQUEST**

RoHS Directive 2011/65/EU and its subsequent amendments & Directive (EU) 2015/863

To determine Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)),

(1) Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs)
content by screening test and chemical test

(2) To determine Phthalates (DBP, BBP, DEHP, DIBP) content by chemical test

CONCLUSION**PASS****PASS**

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Test Material List

Material No.	Description (Location)	Photo(s) of tested materials
1	White plastic(shell)	
2	Transparent glass	
3	Black viscosity tape	
4	Silver metal(screw)	
5	White soft plastic(wire jacket)	
6	Coppery metal(wire)	
7	White plastic(terminal)	
8	Black soft plastic(wire jacket)	
9	Silver metal(wire)	
10	Black body(IC)	
11	Black plastic(base)	
12	Black body(triode)	
13	White plastic(terminal)	
14	Black plastic(shell,buzzer)	
15	Silver metal(gasket,buzzer)	
16	Black magnet(core,buzzer)	
17	Coppery metal(coil,buzzer)	
18	Silver metal(shaft,buzzer)	
19	White plastic(terminal)	
20	Silver metal(solder)	
21	Green PCB	
22	White viscosity tape	
23	Black viscosity foam	
24	White FPC	
25	Yellow body(LED)	
26	Silver metal(shell,switch)	
27	Golden metal(button,switch)	

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Material No.	Description (Location)	Photo(s) of tested materials
28	Brown body(capacitor)	
29	Black body(IC)	
30	Brown plastic(button,switch)	
31	Silver metal(shell,switch)	
32	Black plastic(base,switch)	
33	Green PCB	
34	Silver metal(solder)	
35	White body(capacitor)	
36	Black body(resistor)	
37	Black plastic with white printing(sleeve, capacitor)	
38	Silvery metal(shell, capacitor)	
39	Black soft rubber(base, capacitor)	
40	Brown paper with liquid(film, capacitor)	
41	Silvery metal(foil, capacitor)	
42	Dull silvery metal(foil, capacitor)	
43	Silvery metal(pin, capacitor)	
44	Transparent glass(lamp)	
45	Black plastic(base)	
46	Black soft plastic(sleeve,inductor)	
47	Black body(inductor)	
48	Black plastic	
49	Black viscosity fabric	
50	Black plastic(screen)	
51	Transparent glass(screen)	
52	White plastic(screen)	
53	Transparent plastic(screen)	

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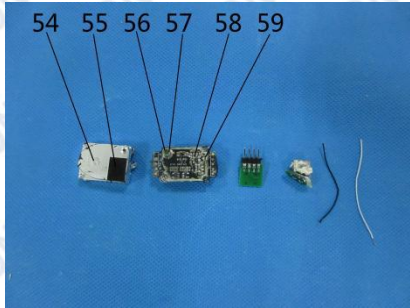
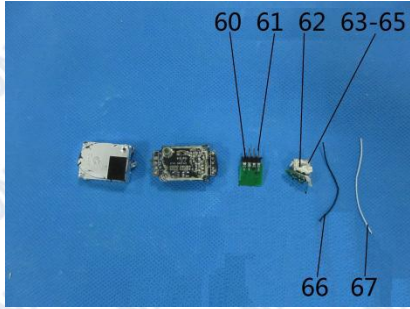
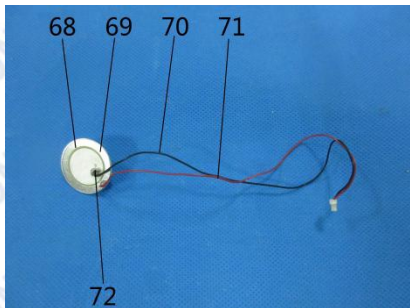
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Material No.	Description (Location)	Photo(s) of tested materials	
54	Silver metal(shell,smoke detecor)	 <p>54 55 56 57 58 59</p>	
55	Black visvidity foam(smoke detecor)		
56	Silver metal(shell,smoke detecor)		
57	Green body(smoke detecor)		
58	Silver metal(solder)		
59	Black PCB		
60	Black plastic(base)		 <p>60 61 62 63-65</p> <p>66 67</p>
61	Silver metal(pin)		
62	White glue		
63	silver metal(shell)		
64	Black plastic(base)		
65	Golden metal(pin)		
66	Black soft plastic(wire jacket)		
67	White soft plastic(wire jacket)		
68	Yellow glue(loudspeaker)	 <p>68 69 70 71</p> <p>72</p>	
69	Silver metal(shell,loudspeaker)		
70	Black soft plastic(wire jacket)		
71	Red soft plastic(wire jacket)		
72	Silver metal(solder)		

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Test Result(s):

(1) Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs)

Test Method: IEC62321-3-1: 2013, IEC62321-4: 2013+A1:2017, IEC62321-5: 2013, IEC62321-6: 2015, IEC 62321-7-1:2015, IEC 62321-7-2: 2017, analyzed by EDXRF & ICP-OES & GC-MS & UV-Vis.

No.	EDXRF Result ⁽¹⁾					Chemical Result ⁽²⁾ (mg/kg)	Remark ⁽³⁾	Conclusion
	Pb	Cd	Hg	Cr	Br			
1	BL	BL	BL	BL	X	PBBs: N.D. PBDEs: N.D.	—	PASS
2	BL	BL	BL	BL	BL	—	—	PASS
3	BL	BL	BL	BL	BL	—	—	PASS
4	BL	BL	BL	BL	BL	—	—	PASS
5	BL	BL	BL	BL	BL	—	—	PASS
6	BL	BL	BL	BL	BL	—	—	PASS
7	BL	BL	BL	BL	BL	—	—	PASS
8	BL	BL	BL	BL	BL	—	—	PASS
9	BL	BL	BL	BL	BL	—	—	PASS
10	BL	BL	BL	BL	BL	—	—	PASS
11	BL	BL	BL	BL	BL	—	—	PASS
12	BL	BL	BL	BL	BL	—	—	PASS
13	BL	BL	BL	BL	BL	—	—	PASS
14	BL	BL	BL	BL	BL	—	—	PASS
15	BL	BL	BL	BL	BL	—	—	PASS
16	BL	BL	BL	BL	BL	—	—	PASS
17	BL	BL	BL	BL	BL	—	—	PASS
18	BL	BL	BL	BL	BL	—	—	PASS
19	BL	BL	BL	BL	BL	—	—	PASS
20	BL	BL	BL	BL	BL	—	—	PASS
21	BL	BL	BL	BL	BL	—	—	PASS
22	BL	BL	BL	BL	BL	—	—	PASS

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No.	EDXRF Result ⁽¹⁾					Chemical Result ⁽²⁾ (mg/kg)	Remark ⁽³⁾	Conclusion
	Pb	Cd	Hg	Cr	Br			
23	BL	BL	BL	BL	BL	—	—	PASS
24	BL	BL	BL	BL	BL	—	—	PASS
25	BL	BL	BL	BL	BL	—	—	PASS
26	BL	BL	BL	BL	BL	—	—	PASS
27	BL	BL	BL	BL	BL	—	—	PASS
28	BL	BL	BL	BL	BL	—	—	PASS
29	BL	BL	BL	BL	BL	—	—	PASS
30	BL	BL	BL	BL	BL	—	—	PASS
31	BL	BL	BL	BL	BL	—	—	PASS
32	BL	BL	BL	BL	BL	—	—	PASS
33	BL	BL	BL	BL	BL	—	—	PASS
34	BL	BL	BL	BL	BL	—	—	PASS
35	BL	BL	BL	BL	BL	—	—	PASS
36	BL	BL	BL	BL	BL	—	—	PASS
37	BL	BL	BL	BL	BL	—	—	PASS
38	BL	BL	BL	BL	BL	—	—	PASS
39	BL	BL	BL	BL	BL	—	—	PASS
40	BL	BL	BL	BL	BL	—	—	PASS
41	BL	BL	BL	BL	BL	—	—	PASS
42	BL	BL	BL	BL	BL	—	—	PASS
43	BL	BL	BL	BL	BL	—	—	PASS
44	BL	BL	BL	BL	BL	—	—	PASS
45	BL	BL	BL	BL	BL	—	—	PASS
46	BL	BL	BL	BL	BL	—	—	PASS
47	BL	BL	BL	BL	BL	—	—	PASS
48	BL	BL	BL	BL	BL	—	—	PASS
49	BL	BL	BL	BL	BL	—	—	PASS

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No.	EDXRF Result ⁽¹⁾					Chemical Result ⁽²⁾ (mg/kg)	Remark ⁽³⁾	Conclusion
	Pb	Cd	Hg	Cr	Br			
50	BL	BL	BL	BL	BL	—	—	PASS
51	BL	BL	BL	BL	BL	—	—	PASS
52	BL	BL	BL	BL	BL	—	—	PASS
53	BL	BL	BL	BL	BL	—	—	PASS
54	BL	BL	BL	BL	BL	—	—	PASS
55	BL	BL	BL	BL	BL	—	—	PASS
56	BL	BL	BL	BL	BL	—	—	PASS
57	BL	BL	BL	BL	BL	—	—	PASS
58	BL	BL	BL	BL	BL	—	—	PASS
59	BL	BL	BL	BL	BL	—	—	PASS
60	BL	BL	BL	BL	BL	—	—	PASS
61	BL	BL	BL	BL	BL	—	—	PASS
62	BL	BL	BL	BL	BL	—	—	PASS
63	BL	BL	BL	BL	BL	—	—	PASS
64	BL	BL	BL	BL	BL	—	—	PASS
65	BL	BL	BL	BL	BL	—	—	PASS
66	BL	BL	BL	BL	BL	—	—	PASS
67	BL	BL	BL	BL	BL	—	—	PASS
68	BL	BL	BL	BL	BL	—	—	PASS
69	BL	BL	BL	BL	BL	—	—	PASS
70	BL	BL	BL	BL	BL	—	—	PASS
71	BL	BL	BL	BL	BL	—	—	PASS
72	BL	BL	BL	BL	BL	—	—	PASS

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Remark:

- (1) ① Results are obtained by EDXRF for primary screening, and further wet chemical testing by ICP-OES (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as "X" in below table) (unit: mg/kg).
- ② OL = Over Limit, BL = Below Limit, X = Inconclusive, NA = Not Applicable.
- ③ The EDXRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

Units and limits in EU RoHS Directive 2011/65/EU:

Element	Pb	Cd	Hg	Cr(VI)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit	1000	100	1000	1000	1000	1000

- (2) ① mg/kg = ppm = 0.0001%, N.D. = Not Detected (Less than MDL).

② Unit and MDL (Method detection limit) in wet chemical test.

Element	Pb	Cd	Hg	Cr(VI)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	8	5	5

③ According to IEC 62321-7-1:2015, result on Cr(VI) for metal sample is shown as Positive/Negative.

Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating.

Storage condition and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

④ According to IEC 62321-3-1:2013, this column represents the results of wet chem test.

- (3) This column represents the exempted decoration of material or other related testing sample's information.

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(2) Phthalates (DBP, BBP, DEHP, DIBP) content

Test Method: IEC 62321-8: 2017, analyzed by gas chromatographic- mass spectrometer (GC-MS).

Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	30	30	30	30	
Material No.	Result (mg/kg)				
1	N.D.	N.D.	N.D.	N.D.	PASS
2	N.D.	N.D.	N.D.	N.D.	PASS
3	N.D.	N.D.	N.D.	N.D.	PASS
4	N.D.	N.D.	N.D.	N.D.	PASS
5	N.D.	N.D.	N.D.	N.D.	PASS
6	N.D.	N.D.	N.D.	N.D.	PASS
7	N.D.	N.D.	N.D.	N.D.	PASS
8	N.D.	N.D.	N.D.	N.D.	PASS
9	N.D.	N.D.	N.D.	N.D.	PASS
10	N.D.	N.D.	N.D.	N.D.	PASS
11	N.D.	N.D.	N.D.	N.D.	PASS
12	N.D.	N.D.	N.D.	N.D.	PASS
13	N.D.	N.D.	N.D.	N.D.	PASS
14	N.D.	N.D.	N.D.	N.D.	PASS
15	N.D.	N.D.	N.D.	N.D.	PASS
16	N.D.	N.D.	N.D.	N.D.	PASS
17	N.D.	N.D.	N.D.	N.D.	PASS
18	N.D.	N.D.	N.D.	N.D.	PASS
19	N.D.	N.D.	N.D.	N.D.	PASS
20	N.D.	N.D.	N.D.	N.D.	PASS
21	N.D.	N.D.	N.D.	N.D.	PASS
22	N.D.	N.D.	N.D.	N.D.	PASS

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Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	30	30	30	30	
Material No.	Result (mg/kg)				
23	N.D.	N.D.	N.D.	N.D.	PASS
24	N.D.	N.D.	N.D.	N.D.	PASS
25	N.D.	N.D.	N.D.	N.D.	PASS
26	N.D.	N.D.	N.D.	N.D.	PASS
27	N.D.	N.D.	N.D.	N.D.	PASS
28	N.D.	N.D.	N.D.	N.D.	PASS
29	N.D.	N.D.	N.D.	N.D.	PASS
30	N.D.	N.D.	N.D.	N.D.	PASS
31	N.D.	N.D.	N.D.	N.D.	PASS
32	N.D.	N.D.	N.D.	N.D.	PASS
33	N.D.	N.D.	N.D.	N.D.	PASS
34	N.D.	N.D.	N.D.	N.D.	PASS
35	N.D.	N.D.	N.D.	N.D.	PASS
36	N.D.	N.D.	N.D.	N.D.	PASS
37	N.D.	N.D.	N.D.	N.D.	PASS
38	N.D.	N.D.	N.D.	N.D.	PASS
39	N.D.	N.D.	N.D.	N.D.	PASS
40	N.D.	N.D.	N.D.	N.D.	PASS
41	N.D.	N.D.	N.D.	N.D.	PASS
42	N.D.	N.D.	N.D.	N.D.	PASS
43	N.D.	N.D.	N.D.	N.D.	PASS
44	N.D.	N.D.	N.D.	N.D.	PASS
45	N.D.	N.D.	N.D.	N.D.	PASS
46	N.D.	N.D.	N.D.	N.D.	PASS

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Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	30	30	30	30	
Material No.	Result (mg/kg)				
47	N.D.	N.D.	N.D.	N.D.	PASS
48	N.D.	N.D.	N.D.	N.D.	PASS
49	N.D.	N.D.	N.D.	N.D.	PASS
50	N.D.	N.D.	N.D.	N.D.	PASS
51	N.D.	N.D.	N.D.	N.D.	PASS
52	N.D.	N.D.	N.D.	N.D.	PASS
53	N.D.	N.D.	N.D.	N.D.	PASS
54	N.D.	N.D.	N.D.	N.D.	PASS
55	N.D.	N.D.	N.D.	N.D.	PASS
56	N.D.	N.D.	N.D.	N.D.	PASS
57	N.D.	N.D.	N.D.	N.D.	PASS
58	N.D.	N.D.	N.D.	N.D.	PASS
59	N.D.	N.D.	N.D.	N.D.	PASS
60	N.D.	N.D.	N.D.	N.D.	PASS
61	N.D.	N.D.	N.D.	N.D.	PASS
62	N.D.	N.D.	N.D.	N.D.	PASS
63	N.D.	N.D.	N.D.	N.D.	PASS
64	N.D.	N.D.	N.D.	N.D.	PASS
65	N.D.	N.D.	N.D.	N.D.	PASS
66	N.D.	N.D.	N.D.	N.D.	PASS
67	N.D.	N.D.	N.D.	N.D.	PASS
68	N.D.	N.D.	N.D.	N.D.	PASS
69	N.D.	N.D.	N.D.	N.D.	PASS
70	N.D.	N.D.	N.D.	N.D.	PASS

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Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	30	30	30	30	
Material No.	Result (mg/kg)				
71	N.D.	N.D.	N.D.	N.D.	PASS
72	N.D.	N.D.	N.D.	N.D.	PASS

- Note:**
1. mg/kg = milligram per kilogram (ppm).
 2. MDL= method detection limit.
 3. N.D.=not detected(less than MDL).

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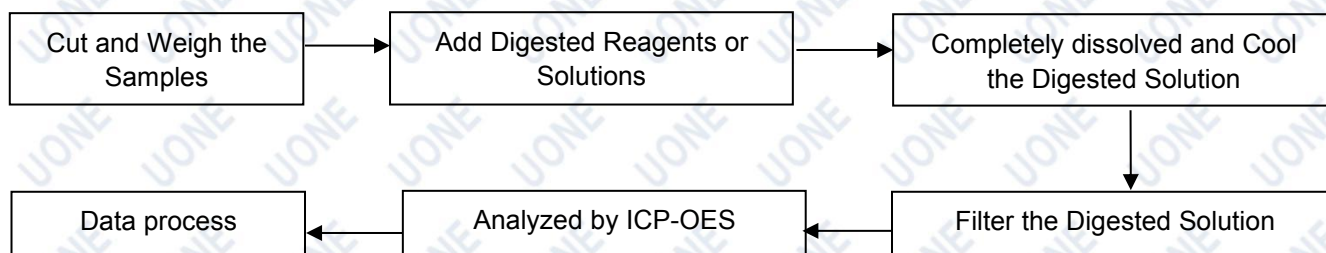
Query Password: QW0162

Date: Apr. 23, 2021

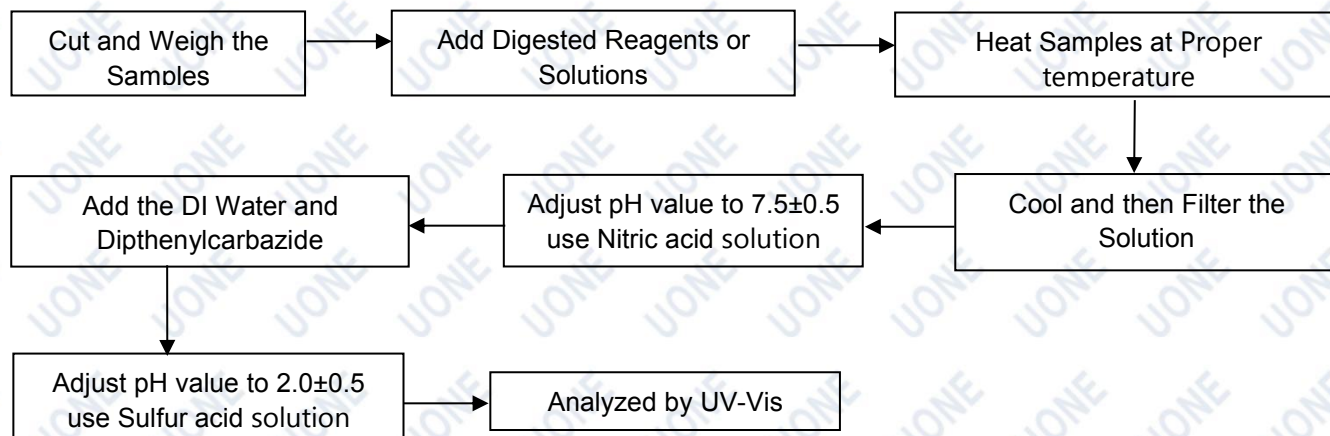
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Test Process Flow

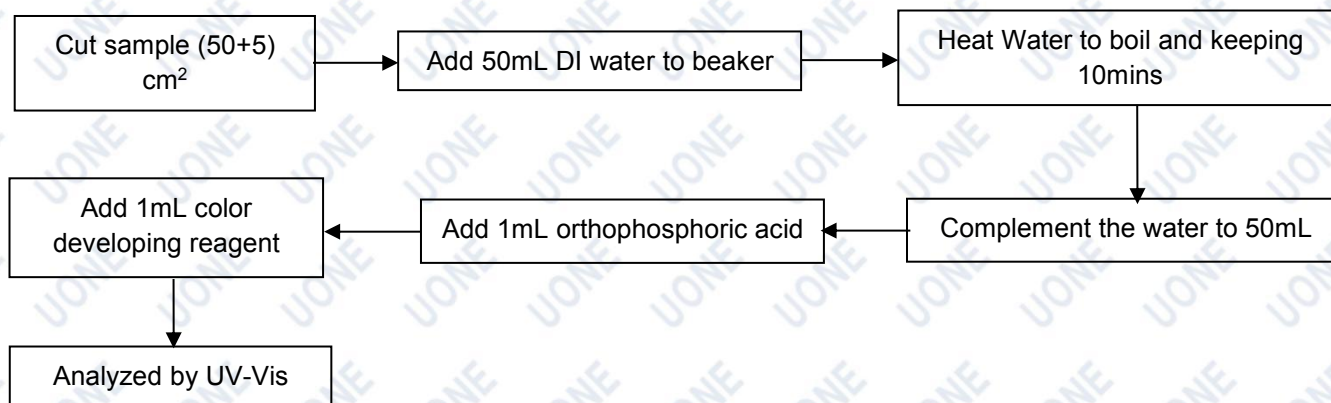
1. Lead, Cadmium, Mercury



2. Hexavalent Chromium (Non-metal)



Hexavalent Chromium (Metal)



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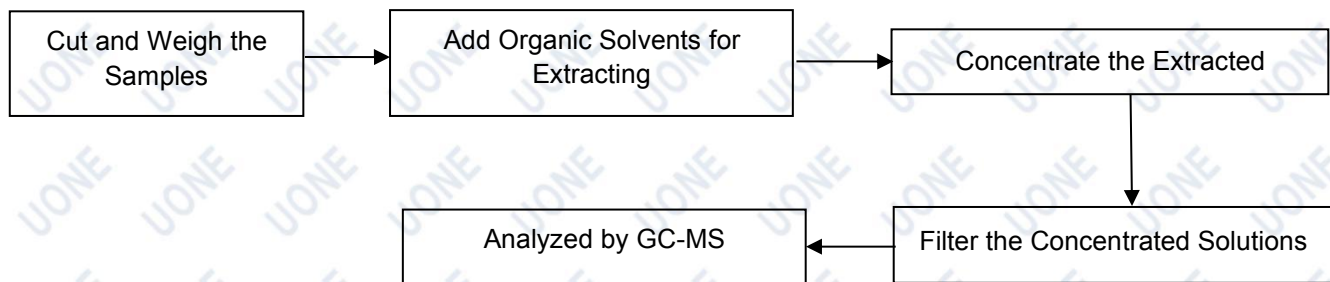
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Test Process Flow (Continued):

3. PBBs & PBDEs, Phthalates



Photo(s) of Sample:



End of Report

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