Test Report

Report No.: SFT22102138699-01E **Date:** Nov.07, 2022

Applicant: Ledlenser Corporation Ltd.

Address: No.25,Yudong 1 Road,Dongcheng Town,Yangdong District, Yangjiang City,GD,529931, China

The following merchandise was (were) submitted and identified by client as:

Sample Name: Worklight
Model No.: W2R Work(502809RWL0)
Manufacturer: Ledlenser Corporation Ltd.
Address: No.25,Yudong 1 Road,Dongcheng Town,Yangdong District, Yangjiang City,GD,529931, China
Test Period: From Oct.31, 2022to Nov.05, 2022

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Heavy Metals , Flame Retardants and Phthalates Content - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments Commission Delegated Directive (EU) 2015/863	PASS

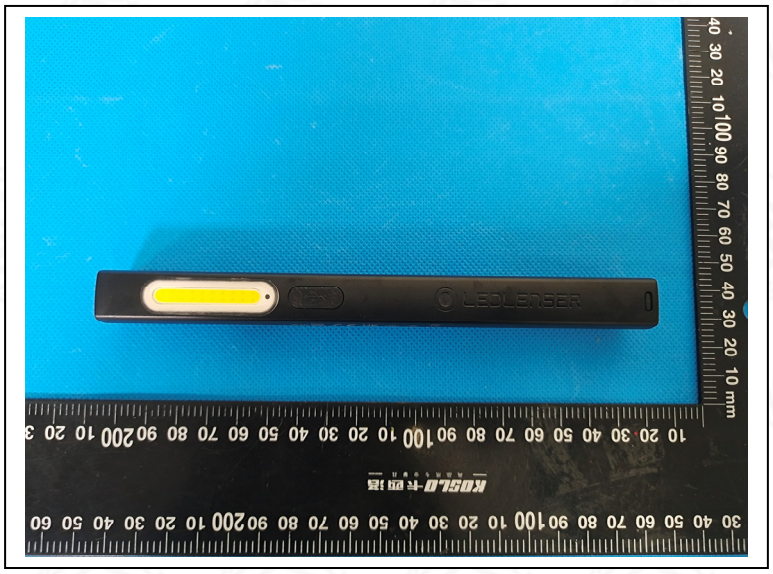
Test Result(s): Please refer to next page(s).

Signed for and on Behalf of SFT

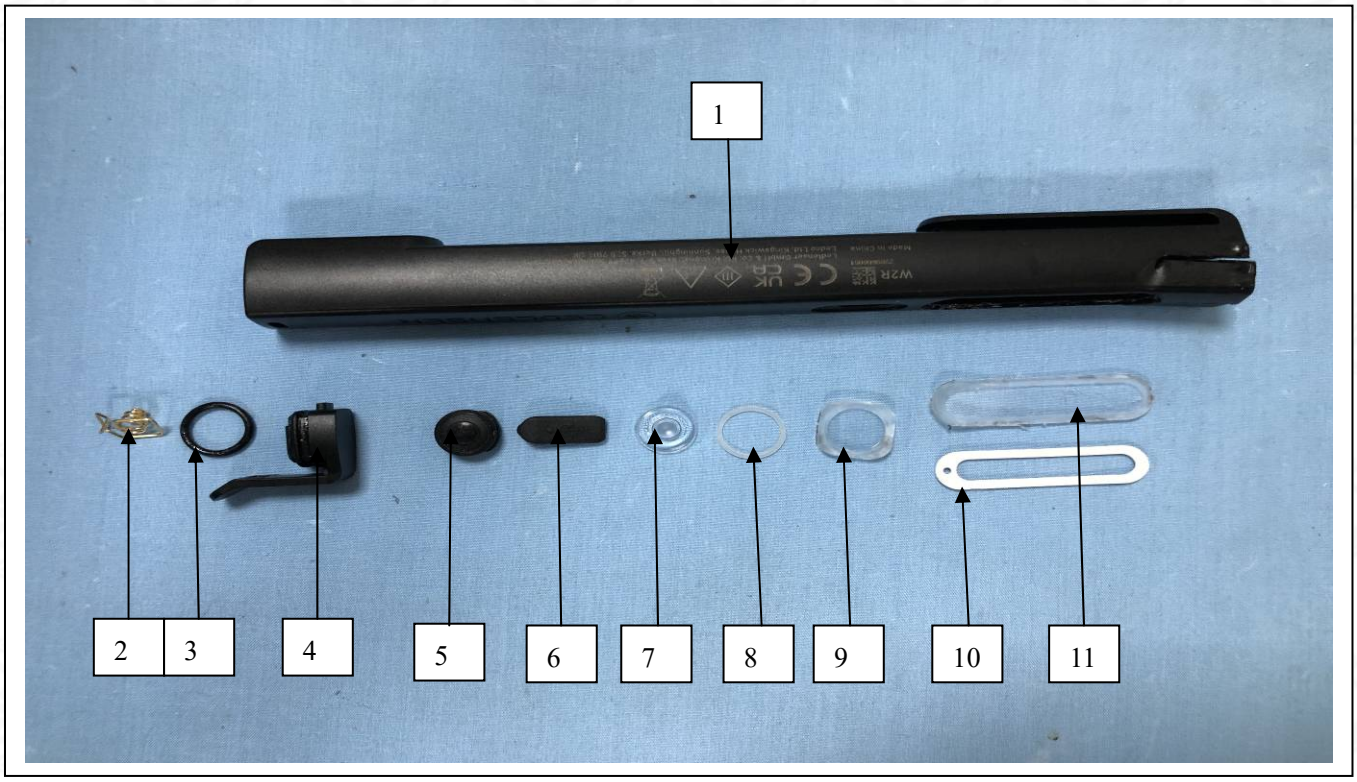
Jack Zhong / Technical Manager
Guangdong Safety Testing Co., Ltd.

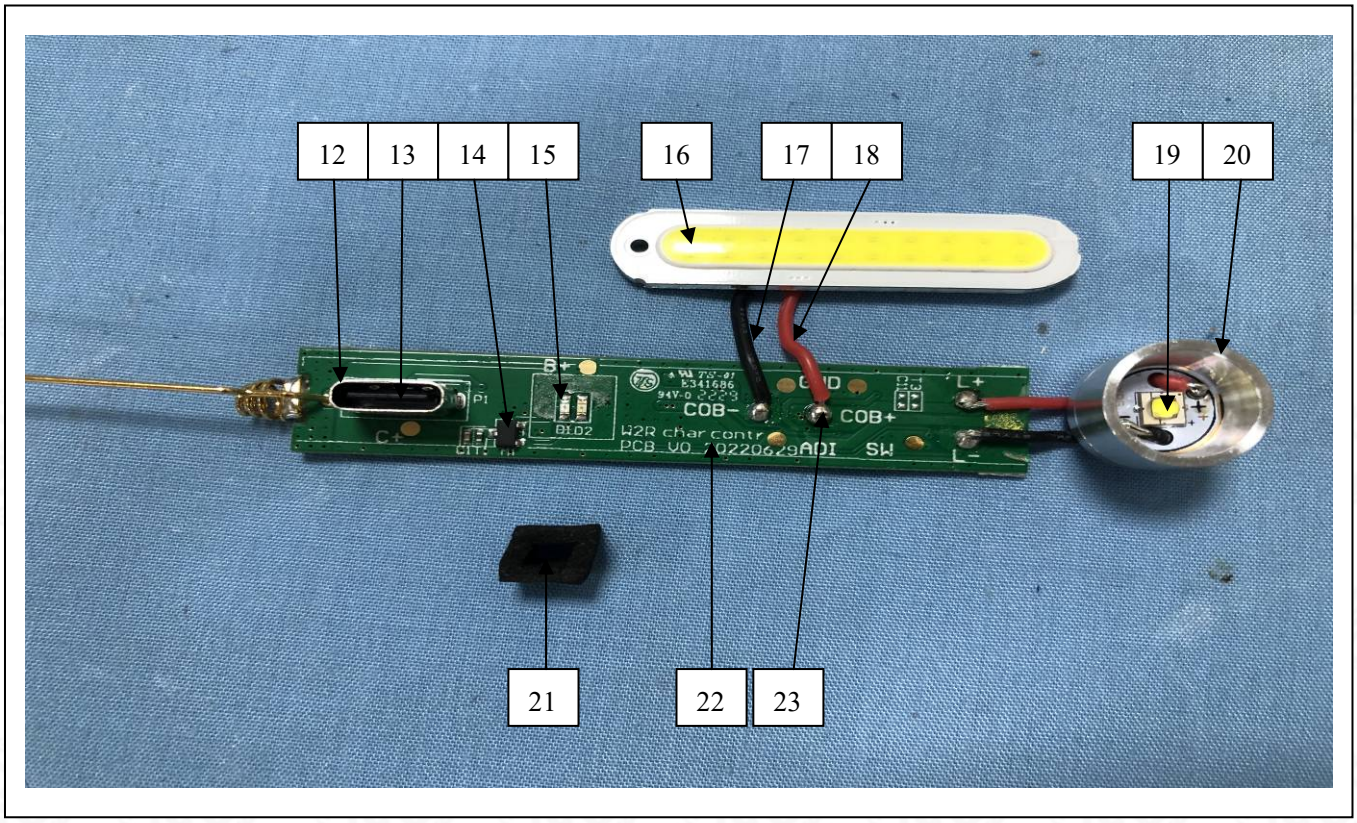
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Photo of the Submitted Sample

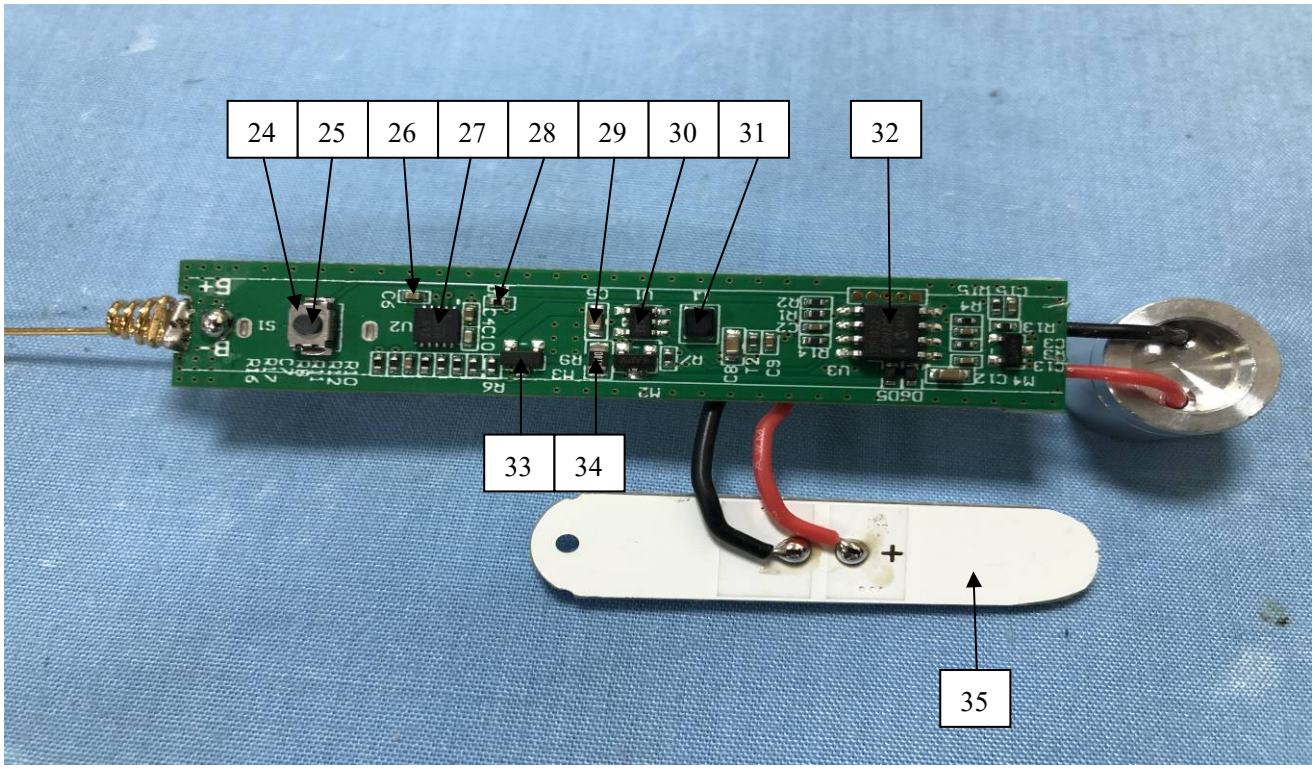


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Test Item(s)	Component Description(s)	Style
1	Black plastic with yellow coating	-
2	Gold metal	-
3	Black soft plastic ring	-
4	Black plastic	-
5	Black soft plastic	-
6	Black soft plastic	-
7	Transparent plastic	-
8	Translucent soft plastic ring	-
9	Transparent plastic	-
10	White plastic	-
11	Transparent plastic	-
12	Silver metal	-
13	Black plastic	-
14	IC	-
15	LED	-
16	Yellow LED	-
17	Black plastic wire jacket	-
18	Red plastic wire jacket	-
19	Yellow LED	-
20	Silver metal	-
21	Black foam	-
22	PCB	-
23	Silver solder tin	-
24	Silver metal sheet	-
25	Black plastic	-
26	SMD capacitor	-
27	IC	-
28	SMD resistor	-
29	SMD capacitor	-
30	IC	-
31	Diode	-
32	IC	-
33	IC	-
34	SMD resistor	-
35	Silver metal with white coating	-

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Test Result(s):

Heavy Metals , Flame Retardants Content - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments Commission Delegated Directive (EU) 2015/863

Test Method:	See Appendix.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

Parameter	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	**Conclusion**
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item(s)	-	-	-	-	-	-	-
1	ND	ND	ND	ND	ND	ND	PASS
2	ND	ND	ND	ND	NA	NA	PASS
3	ND	ND	ND	ND	ND	ND	PASS
4	ND	ND	ND	ND	ND	ND	PASS
5	ND	ND	ND	ND	ND	ND	PASS
6	ND	ND	ND	ND	ND	ND	PASS
7	ND	ND	ND	ND	ND	ND	PASS
8	ND	ND	ND	ND	ND	ND	PASS
9	ND	ND	ND	ND	ND	ND	PASS
10	ND	ND	ND	ND	ND	ND	PASS
11	ND	ND	ND	ND	ND	ND	PASS
12	ND	ND	ND	ND	NA	NA	PASS
13	ND	ND	ND	ND	ND	ND	PASS
14	ND	ND	ND	ND	ND	ND	PASS
15	ND	ND	ND	ND	ND	ND	PASS
16	ND	ND	ND	ND	ND	ND	PASS
17	ND	ND	ND	ND	ND	ND	PASS
18	ND	ND	ND	ND	ND	ND	PASS
19	ND	ND	ND	ND	ND	ND	PASS
20	ND	ND	ND	ND	NA	NA	PASS
21	ND	ND	ND	ND	ND	ND	PASS
22	ND	ND	ND	ND	ND*	ND*	PASS
23	ND	ND	ND	ND	NA	NA	PASS
24	ND	ND	ND	Negative*	NA	NA	PASS
25	ND	ND	ND	ND	ND	ND	PASS

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26	ND	ND	ND	ND	ND	ND	PASS
27	ND	ND	ND	ND	ND	ND	PASS
28	ND	ND	ND	ND	ND	ND	PASS
29	ND	ND	ND	ND	ND	ND	PASS
30	ND	ND	ND	ND	ND	ND	PASS
31	ND	ND	ND	ND	ND	ND	PASS
32	ND	ND	ND	ND	ND	ND	PASS
33	ND	ND	ND	ND	ND	ND	PASS
34	ND	ND	ND	ND	ND	ND	PASS
35	ND	ND	ND	ND	NA	NA	PASS

Note / Key:

ND = Not detected
NA= Not applicable mg/kg = milligram(s) per kilogram = ppm = part(s) per million
% = percent 10000 mg/kg = 1 %
Detection Limit: See Appendix.

Phthalates Content - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments Commission Delegated Directive (EU) 2015/863

Analyte	Requirement (mg/kg)	Result (mg/kg)		
		Test Item		
		1+4+7	3+5+6	8+17+18
Dibutyl phthalate (DBP)	1000	ND	ND	ND
Di-(2-ethyl hexyl) phthalate (DEHP)	1000	ND	ND	ND
Benzyl butyl phthalate (BBP)	1000	ND	ND	ND
Di-(iso-butyl) phthalate (DIBP)	1000	ND	ND	ND
Conclusion		PASS	PASS	PASS

Analyte	Requirement (mg/kg)	Result (mg/kg)		
		Test Item		
		9+10+11	13+22+25	-
Dibutyl phthalate (DBP)	1000	ND	ND	-
Di-(2-ethyl hexyl) phthalate (DEHP)	1000	ND	ND	-
Benzyl butyl phthalate (BBP)	1000	ND	ND	-
Di-(iso-butyl) phthalate (DIBP)	1000	ND	ND	-
Conclusion		PASS	PASS	-

Note / Key:

ND = Not detected
NA= Not applicable mg/kg = milligram(s) per kilogram = ppm = part(s) per million

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% = percent 10000 mg/kg = 1 %
Report Limit: See Appendix.

Remark:

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.
- According to European Council Directive 2011/65/EU, Article 5 “Adaptation of the Annexes to scientific and technical progress”, exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.
- Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Council Directive 2011/65/EU, Article 4(1).

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APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [for European Council Directive 2011/65/EU&(EU) 2015/863] :

No.	Name of Analytes	Report Limit (mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF)[a]			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10[b]	1000
2	Cadmium (Cd)	50	50	50	10[b]	100
3	Mercury (Hg)	100	200	200	10[c]	1000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	10[d] / See [e]	1000 / Negative
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 [f]	Sum 1000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 [f]	Sum 1000
9	Dibutyl phthalate (DBP) Di-(2-ethyl hexyl) phthalate (DEHP) Benzyl butyl phthalate (BBP) Di-(iso-butyl) phthalate (DIBP)	NA	NA	NA	Each 50 [g]	Each 1000

NA = Not applicable

[a] Test method with reference to IEC 62321-3-1:2013.

[b] Test method with reference to IEC 62321-5:2013.

[c] Test method with reference to IEC 62321-4:2013+AMD1:2017.

[d] Polymers and Electronic-Test method with reference to European standard IEC 62321-7-2:2017.

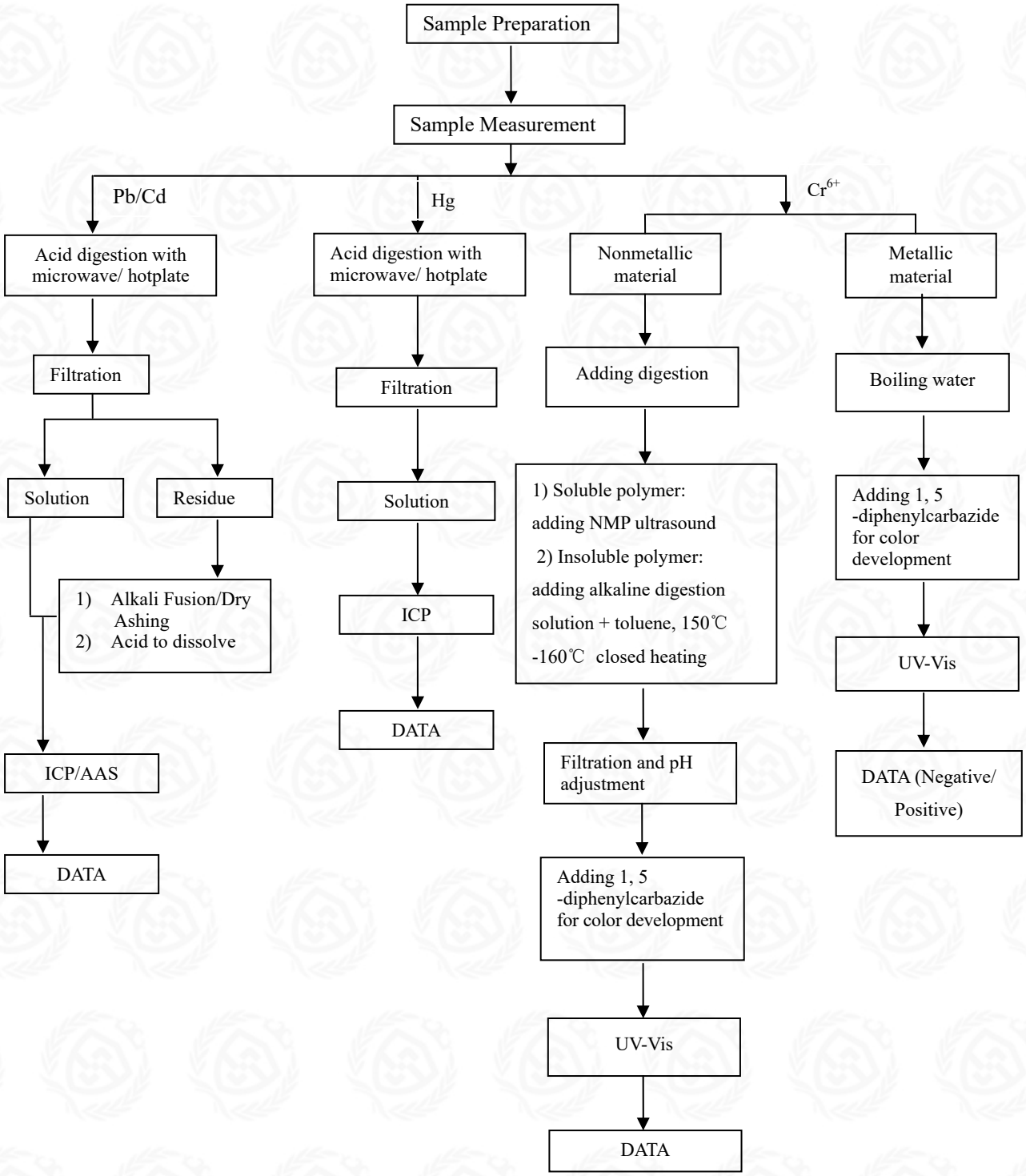
[e] Metal-Test method with reference to European standard IEC 62321-7-1:2015.

[f] Test method with reference to European standard IEC 62321-6: 2015.

[g] Test method with reference to IEC 62321-8:2017.

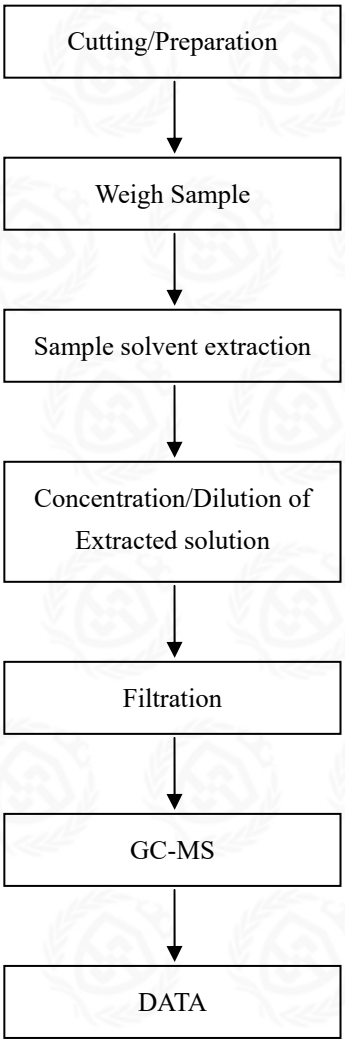
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Pb/Cd/Hg/Cr^{6+} Testing Flow Chart



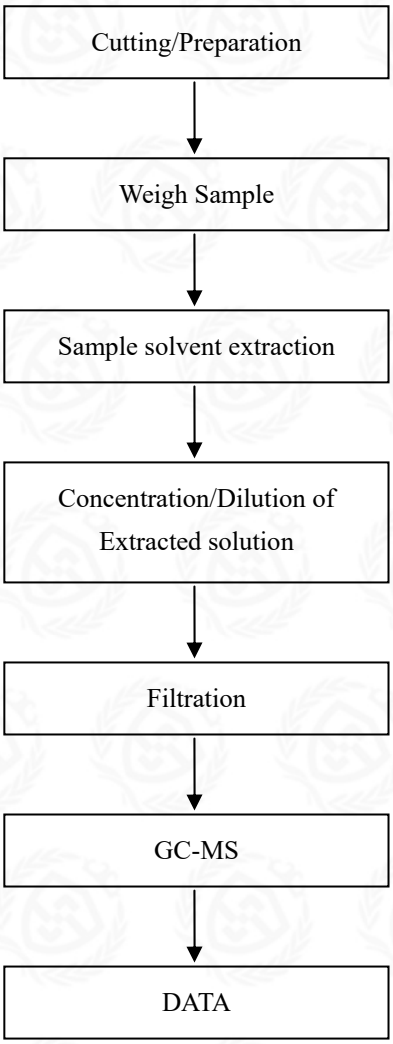
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PBBs/PBDEs Testing Flow Chart



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Phthalates Testing Flow Chart



End of Report

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