

Test Report

Report No :KEYS21052411001RH-03

Applicant : Zhongshan Qianrun Lighting Co., Ltd
Address : 6 Chaohua Road, Zhenhaizhou, Guzhen Town, Zhongshan City, Guangdong Province, China
Manufacturer : Zhongshan Qianrun Lighting Co., Ltd
Address : 6 Chaohua Road, Zhenhaizhou, Guzhen Town, Zhongshan City, Guangdong Province, China

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

Sample Name : Hollywood Mirror light
Trade Name : N/A
Main Model : 10 serie of Hollywood mirror light A, 2 serie of Hollywood mirror light A, 6 serie of Hollywood mirror light A, 14 serie of Hollywood mirror light A, 2 serie of Hollywood mirror light B, 6 serie of Hollywood mirror light B, 10 serie of Hollywood mirror light B, 14 serie of Hollywood mirror light B, 2 serie of Hollywood mirror light C, 6 serie of Hollywood mirror light C, 10 serie of Hollywood mirror light C, 14 serie of Hollywood mirror light C

Sample Received Date : May 26,2021

Testing Period : May 26,2021 To May 31,2021

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 IEC62321:2013 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 next page(s).

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

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.

Signed for and on behalf of


Jason Zhan
Technical Director


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No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
1	Leads wire	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		Br(PBBs&PBDEs)	BL	--	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	
2	LED	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		Br(PBBs&PBDEs)	BL	--	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	
3	LED cover	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		Br(PBBs&PBDEs)	BL	--	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	
4	Aluminum substrate	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		Br(PBBs&PBDEs)	BL	--	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	

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No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
5	USB connector	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		Br(PBBs&PBDEs)	BL	--	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	

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1. It is the result on total Br while test item on restricted substances in PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).

2. Screening test by XRF spectroscopy

XRF screening limits in mg/kg for regulated elements according to IEC62321:2013 Ed.1 Sec.6 & Annex D.

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

XRF detection limits in mg/kg for regulated elements in various material

Element	Polymer Material	Metallic Material	Composite Material
Pb	10	50	50
Cd	10	50	50
Hg	10	50	50
Cr	10	50	50
Br	10	50	50

Note:

-BL = Under the XRF screening limit

-OL = Future chemical test will be conducted while result is above the screening limit

-X = The symbol "X" marks the region where further investigation is necessary

-3σ = The reproducibility of analytical instruments

-LOD = Detection limit

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3. Wet chemical test

Test Item(s)	Test Method	Test Equipment	MDL
Pb	IEC62321-5:2013	ICP-AES	2
Cd	IEC62321-5:2013	ICP-AES	2
Hg	IEC62321-4:2017	ICP-AES	2
Cr(VI)	IEC62321-7-1:2015 IEC62321-7-2:2017	UV-Vis	2
PBB	IEC62321-6:2015	GC-MS	5
PBDE	IEC62321-6:2015	GC-MS	5
Dibutyl Phthalate(DBP)	IEC62321-8:2017	GC-MS	30
Benzylbutyl Phthalate (BBP)	IEC62321-8:2017	GC-MS	30
Di-(2-ethylhexyl) Phthalate(DEHP)	IEC62321-8:2017	GC-MS	30
Diisobutyl phthalate (DIBP)	IEC62321-8:2017	GC-MS	30

Note: - mg/kg= ppm=0.0001% -ND=Not

Detected(<MDL)

- MDL = Method Detection Limit -- = No

Testing

-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling

water extraction solution is less than 0.02 mg/kg with 50cm² sample surface

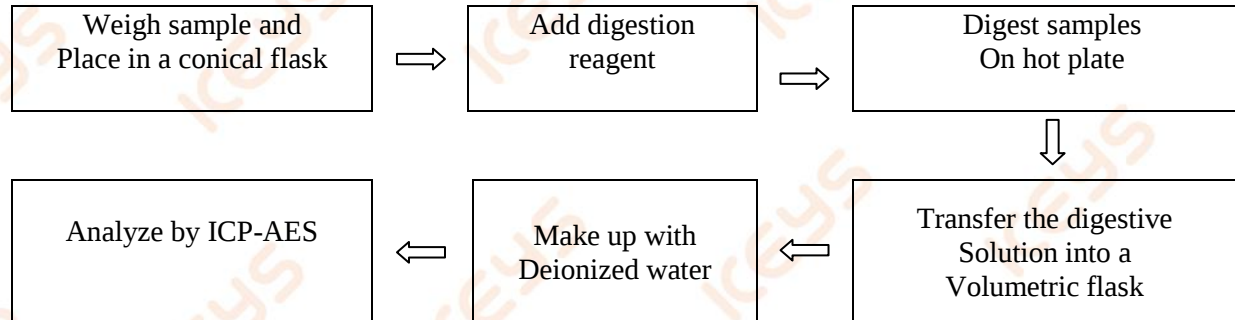
-*=According to 2011/65/EU Annex, point 6-Lead as an alloying element is steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy, containing up to 4% lead by weight can be exempted.

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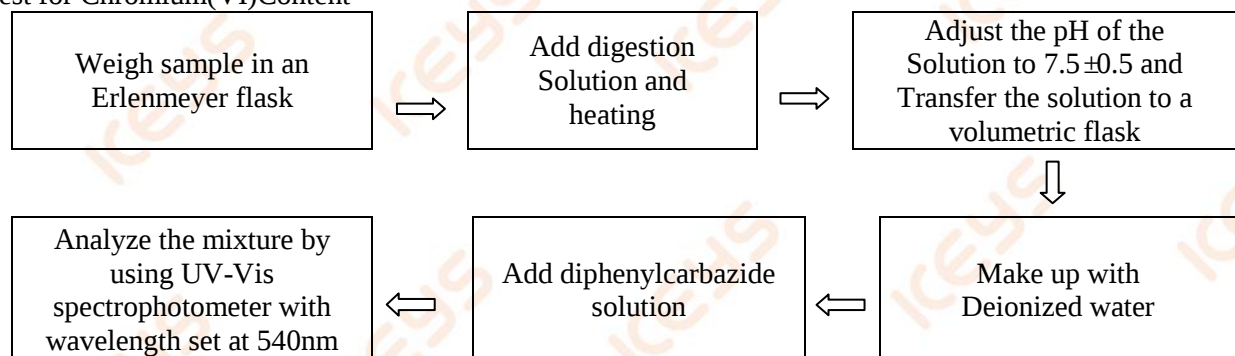
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Test Process:

1. Test for Cd/Pb Content



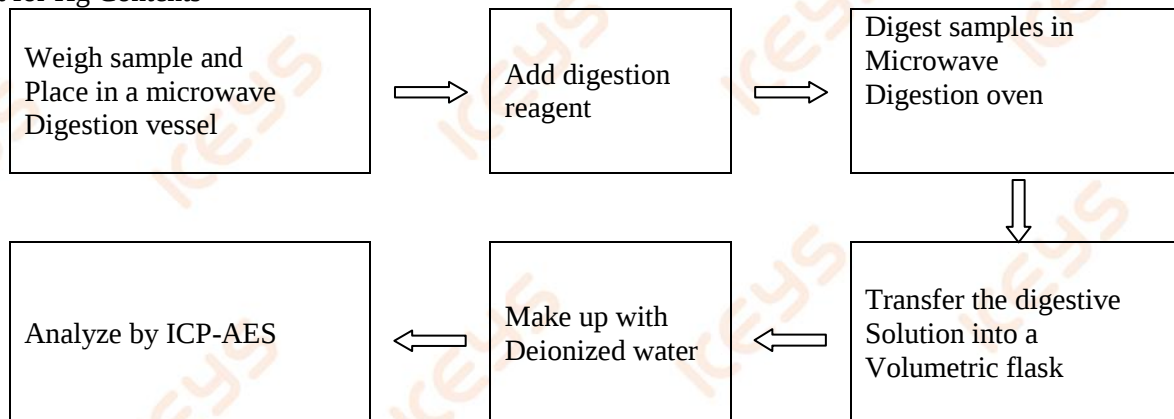
2. Test for Chromium(VI)Content



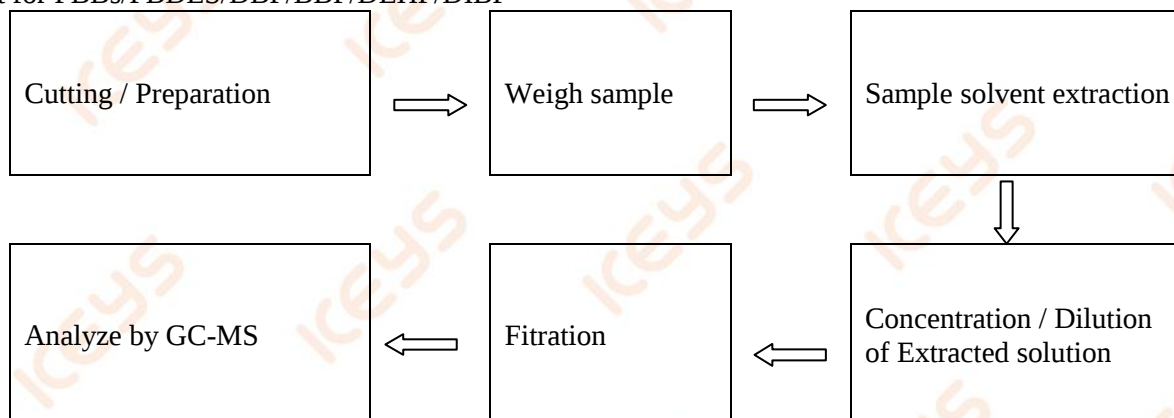
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3. Test for Hg Contents



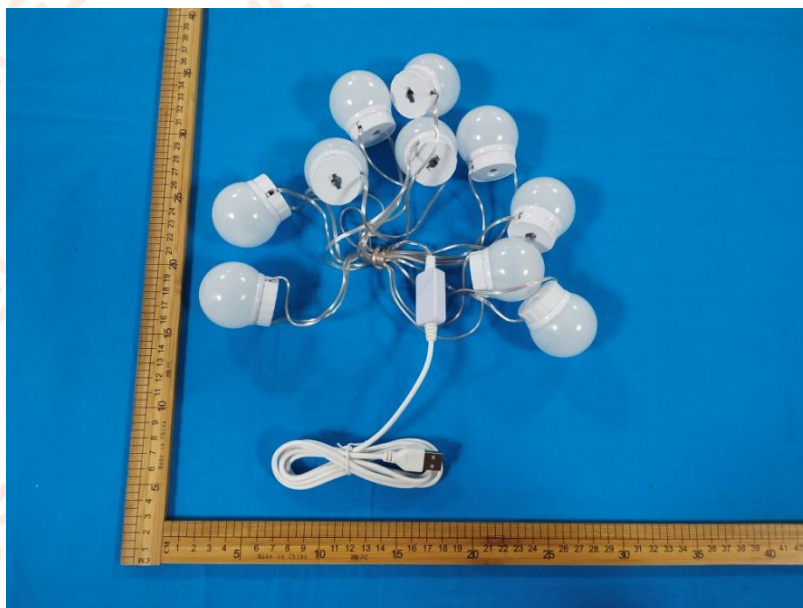
4. Test for PBBs/PBDES/DBP/BBP/DEHP/DIBP



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Sample photo:



*** End of Report ***