



TEST REPORT

 Reference No.
 :
 WTF18F09125365C

 Applicant
 :
 Mid Ocean Brands B.V

Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon,

Hong Kong

Manufacturer : 115205

Sample Name: Plastic light up logo torch

Model No. : MO9469

Test Requested.....: In accordance with the RoHS Directive 2011/65/EU

mechanical sample preparation

2) With reference to IEC 62321-3-1:2013, screening - Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence

spectrometry

3) With reference to IEC 62321-4:2013, determination of Mercury by

ICP-OES

4) With reference to IEC 62321-5:2013, determination of Lead and

Cadmium by ICP-OES

5) With reference to IEC 62321-7-2:2017 and IEC 62321-7-1:2015,

determination of Hexavalent Chromium by UV-Vis

6) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS

Test Conclusion...... : Based on the performed tests on the submitted samples, the results

comply with the RoHS Directive 2011/65/EU

Date of Receipt sample ... : 2018-09-30

Date of Test : 2018-09-30 to 2018-10-17

Date of Issue 2018-10-17

Test Result: Please refer to next page (s)

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Test Results:

Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
et		Cd	BL		il.
	mer any any a	Pb	BL	alter white white	While M
1	Black fabric rope	Hg	BL	NA	Comply
		Cr	BL	TEX TEX TEX	
		Br	BL	with the the	
· ر	et alie with whi whi	Cd	BL	at at let .	Comply
	711, 72, 7	Pb	BL	in whi whi wh	
2	Silvery metal ring	Hg	BL	NA	
	mr. mr. m. m.	Cr	BL	ie alter miter mair	
·	it let tet tet t	Br	on BL	20, 20, 2,	
JE.	WILL MUST AND MUST AND	Cd	BL	t let tet lier	Comply
		Pb	BL	Wr. Aur Mr.	
3	Red coating	Hg	BL	Cr ⁶⁺ :ND	
	Mr. M. M.	Cr	IN	write while when we	
	t tex tex it	Br W	BL	20	
WALT	Semi-transparent plastic shell without red coating	Cd	BL	it the wife will will	Comply
		Pb	BL	'm' 'n' ''	
4		Hg	BL	A NACT OF	
		Cr	BL	wer were no	
		Br	BL	t at at	
11	Transparent plastic sheet	Cd	BL	Will will a	Comply
		Pb	BL	2, 2,	
5		Hg	BL	NA	
		Cr	MBL 3		
LIE		Br	BL	to the ties like	CLIE
	White plastic sleeve with silvery coating	Cd	BL	T. Mu. Mu.	Comply
		Pb	BL	A LET LET	
6		Hg	BL	NA	
		Cr	BL	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
		Br	BL	TEX LITER OLITER OF	LITE MALI
7 Chilli	White plastic sleeve	Cd	BL	Mr. M. M.	Comply
		Pb	BL	et tet tet	
		Hg	BL	NA NA	
		Cr	BL	a state	
	me m m	Br A	BL	E NITE INCITE WALL	MUT. M
8 0	Grey-white plastic sleeve	Cd	BL	200 200	Comply
		Pb	BL	DDD ND	
		Hg	BL	PBBs :ND	
	ier with white white will	Cr	BL	PBDEs :236	
	20, 20	Br	IN	in it with the the	7/1



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Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
.c.t		Cd	BL	- L . L	.EX
N		Pb	BL	alter white white	While M
9	Beige plastic sleeve	Hg	BL	NA	Comply
		Cr	BL	TEX TEX STEEL	
7,		Br	BL	mr. mr. m. n	
· (5	et alter with and while	Cd	BL	at at let .	Comply
Me		Pb	BL	of the work who	
10	Off-white plastic sleeve	Hg	BL	NA	
nii .		Cr	BL	ie alter miter wall	
		Br	W BL	20, 20,	
IE. II	Transparent body of LED	Cd	L BL	t TEX TEX STEE	Comply
300		Pb	BL	DDD ND	
11		Hg	BL	PBBs : ND PBDEs : ND	
m		Cr	BL	PDDES. ND	
		Br	IN		It LEX
WILL	Silvery metal pin of LED	Cd	BL	THE NITE WITE WAL	Comply
		Pb	BL	7 My 20 2	
12		Hg	BL	NA NA	
7		Cr	BL	int. in in	
CEY .		Br	BL	at at all	
11	Silvery metal spring	Cd	BL	WILL WULL MULL A	Comply
		Pb	BL	J , L at	
13		Hg	BL	NA NA	
		Cr	BL	10 211 21.	
TE		Br	BL	+ TEX TEX	





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(1) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr⁶⁺) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1: 2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL ≤ (70-3σ) < IN < (130+3σ) ≤ OL	BL ≤ $(70-3\sigma)$ < IN < $(130+3\sigma)$ ≤ OL	LOD < IN < (150+3σ) ≤ OL
Pb	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Hg	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Cr	BL ≤ (700-3σ) < IN	BL ≤ (700-3σ) <in< td=""><td>BL ≤ (500-3σ) < IN</td></in<>	BL ≤ (500-3σ) < IN
Br	BL ≤ (300-3σ) < IN	St Write Mulity Marie M	BL ≤ (250-3σ) < IN

BL= Below Limit

OL= Over Limit

LOD = Limit of Detection

-- = Not Regulated

- (2) "IN" expresses the inconclusive region, and further chemical testing to confirm whether it complies with the requirement of RoHS Directive.
- (3) The XRF screening test for RoHS elements the reading may be different to the actual content in the sample be of non-uniformity composition.
- (4) ppm = mg / kg, based on the dry weight of tested sample.
- (5) ND = Not Detected, less than the value of Method Detection Limit.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit, it was not need to conduct the wet chemical testing.
- (7) MDL= Method Detection Limit in wet chemical test.

	Test Items	Pb	Cd	Hg	Cr ⁶⁺		PBB	PBDE
	Units	mg/kg	mg/kg	mg/kg	mg/kg	μg/cm ²	mg/kg	mg/kg
5	MDL	2.50	2	2	2	0.1	5	5 4

The MDL for single compound of PBBs and PBDEs is 5 mg/kg, MDL of Cr^{6+} for polymer and composite sample is 2 mg/kg and MDL of Cr^{6+} for metal sample is $0.1 \mu \text{g/cm}^2$.

(8) According to IEC 62321-7-1:2015, determined of Cr⁶⁺ on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is less than 0.10ug/cm².

Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is greater than 0.13ug/cm².

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

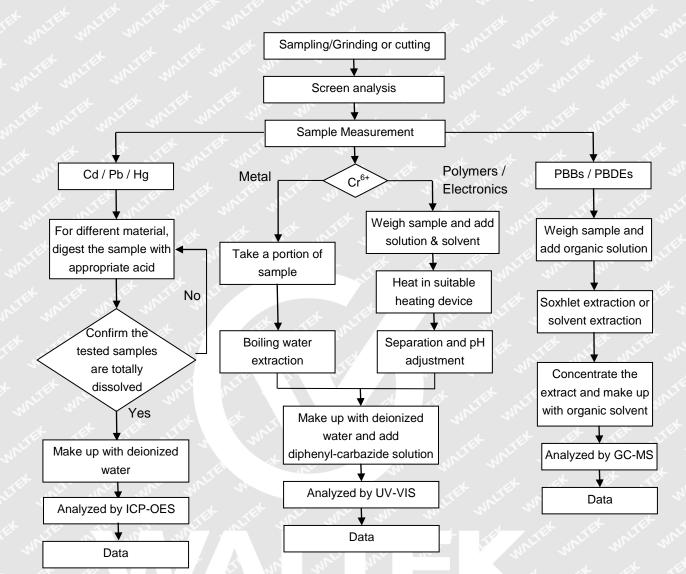
(9) The testing standard "IEC 62321-7-2:2017" does not been accredited by CNAS.

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Measurement Flowchart:



Test Sample Photo:



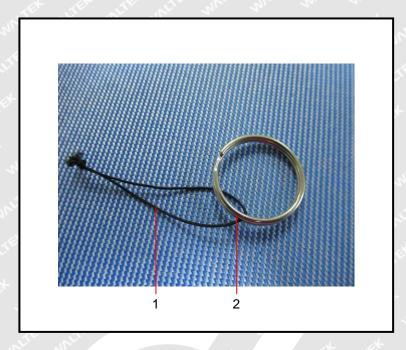


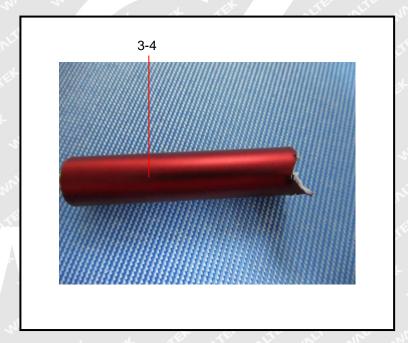
Product pictures provided by client:



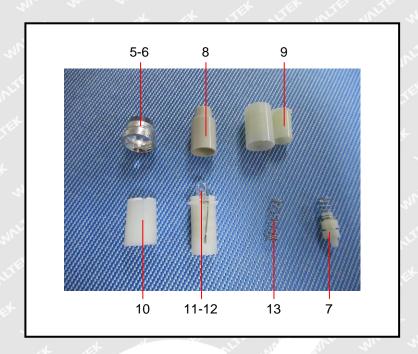
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Photograph of parts tested:









===== End of Report =====

Extractification of the contraction of the contract