

TEST REPORT

APPLICANT : Xindao B.V.

ADDRESS : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

SAMPLE DESCRIPTION : Quatro aluminum torch

ITEM NO. : P513. 27

COUNTRY OF ORIGIN : China

COUNTRY OF DESTINATION : Europe

SAMPLE RECEIVED DATE : 19-Sep-2016

TURN AROUND TIME : 19-Sep-2016 to 29-Sep-2016

TEST SPECIFICATION : EC Directive 2011/65/EU —The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment — (RoHS)

CONCLUSION : Based on the analysis on the submitted sample(s), the test results do comply with the RoHS directive 2011/65/EU.

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***** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) *****

Signed for and on behalf of
Eurofins Product Testing Service (Shanghai) Co., Ltd



Terric Ji
Lab Manager

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TEST SAMPLE PHOTO**EFSH16090939-CG-02**

TO BE CONTINUED

REFERENCE SAMPLE PHOTO



The reference sample has not been tested in current report, but according to customer's request, the picture has also been included. For sample tested in current report, please refer to "Test sample photo".

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TO BE CONTINUED

COMPONENT PHOTO(S)



1



2



3



4



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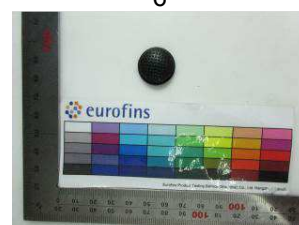
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TO BE CONTINUED

COMPONENT PHOTO(S)

19



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TO BE CONTINUED

TEST RESULT

A. Screening Test by XRF Spectroscopy

As specified by client, to analyze the contents of Lead, Cadmium, Mercury, Chromium, Bromine in the submitted sample by XRF. Screening limits in mg/kg for regulated elements in various matrices according to IEC 62321-3-1:2013 Ed.1

No.	Component	Test Results (mg/kg)				
		Cd	Pb	Hg	Cr	Br
		Limit (mg/kg)				
		100	1000	1000	Cr(VI): 1000	PBB:1000 PBDE:1000
1	White plastic block 1	ND	ND	ND	ND	ND
2	Silver metal shell	ND	ND	ND	NC	NA
3	Ivory plastic block 1	ND	ND	ND	ND	ND
4	White plastic block 2	ND	ND	ND	ND	ND
5	White plastic block 3	ND	ND	ND	ND	ND
6	Semi-transparent plastic block	ND	ND	ND	ND	ND
7	White plastic block 4	ND	ND	ND	ND	ND
8	Black fabric	ND	ND	ND	ND	ND
9	Black rubber block	ND	ND	ND	ND	ND
10	Transparent plastic block	ND	ND	ND	ND	ND
11	Transparent plastic bulb	ND	ND	ND	ND	NC
12	Circuit board	ND	ND	ND	167	NC
13	Silver metal soldering tin	ND	ND	ND	NC	NA
14	Silver metal circle 1	ND	ND	ND	NC	NA
15	Silver metal circle 2	ND	ND	ND	NC	NA
16	Silver metal spring 1	ND	ND	ND	NC	NA
17	Gold metal connecting sheet 1	ND	ND	ND	NC	NA
18	Gold metal spring	ND	ND	ND	NC	NA
19	Silver metal spring 2	ND	136	ND	NC	NA
20	Gold metal connecting sheet 2	ND	ND	ND	NC	NA
21	Silver metal connecting sheet 1	ND	ND	ND	NC	NA
22	Silver metal block 1	ND	ND	ND	NC	NA
23	Silver metal block 2	ND	ND	ND	NC	NA
24	Silver metal connecting sheet 2	ND	ND	ND	NC	NA
25	Silver metal spring 3	ND	275	ND	NC	NA

TO BE CONTINUED

TEST RESULT

Abbreviation:	Pb	denotes Lead
	Cd	denotes Cadmium
	Hg	denotes Mercury
	Cr	denotes Chromium
	Cr(VI)	denotes Chromium(VI)
	Br	denotes Bromine
	PBBs	denotes Total Polybrominated Biphenyls
	PBDEs	denotes Total Polybrominated Diphenyl Ethers
	NA	denotes Not Applicable
	ND	denotes Not Detected (Cd<10mg/kg, Pb/ Hg/ Cr<100mg/kg, Br<300mg/kg)
	NC	denotes Not Conclusive

XRF Screening limits for different materials:

Element	Polymers	Metals	Composite Material
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	$BL \leq (300-3\sigma) < X$	/	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

Note:

BL= Below limit

X = The region where further investigation is necessary

OL = Over limit

3σ = The repeatability of the analyzer at the action level

LOD = Limit of detection

XRF testing results are only used for reference.

B. Confirmation Test by Wet Chemistry

Tested Item(s)	Test Method	Measured Equipment	MDL
Lead (Pb) /Cadmium (Cd)	IEC 62321-5:2013 Ed.1	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed.1	ICP-OES	2 mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015 Ed.1	UV-Vis	0.01µg/cm ²
	IEC 62321:2008 Ed.1 Annex C		2 mg/kg
Polybrominated Biphenyls (PBBs)	IEC 62321-6: 2015 Ed.1	GC-MS	50 mg/kg
Polybrominated DiphenylEthers (PBDEs)			

TO BE CONTINUED

TEST RESULT

Component No.	Boiling-water-extraction for Cr(VI) (*1)
2	Negative
13	Negative
14	Negative
15	Negative
16	Negative
17	Negative
18	Negative
19	Negative
20	Negative
21	Negative
22	Negative
23	Negative
24	Negative
25	Negative

Remark:

(*1) The screening result of Chromium(VI) was found in the inconclusive region, Thus the Chromium(VI) content in surface layer have been confirmed with reference to IEC 62321-7-1:2015.

Negative - The Cr(VI) concentration is below $0.10\mu\text{g}/\text{cm}^2$. The coating is considered a non-Cr(VI) based coating.

Component No.	Test Results (mg/kg)					
	Cd	Pb	Hg	Cr (VI)	PBBs	PBDEs
	Limit (mg/kg)					
	100	1000	1000	1000	1000	1000
11	-	-	-	-	ND	ND
12	-	-	-	-	ND	ND

Note:

The sample had been dissolved totally tested for Lead, Cadmium, Mercury.

MDL = method detection limit

ND = not detected (<MDL)

mg/kg = ppm = parts per million

$\mu\text{g}/\text{cm}^2$ = micrograms per square

*** END OF THE REPORT ***