

# TEST REPORT

<b><u>APPLICANT</u></b>	: Xindao B.V.
<b><u>ADDRESS</u></b>	: P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands
<b><u>SAMPLE DESCRIPTION</u></b>	: Quatro aluminum torch
<b><u>ITEM NO.</u></b>	: P513. 27
<b><u>COUNTRY OF ORIGIN</u></b>	: China
<b><u>COUNTRY OF DESTINATION</u></b>	: Europe
<b><u>SAMPLE RECEIVED DATE</u></b>	: 19-Sep-2016
<b><u>TURN AROUND TIME</u></b>	: 19-Sep-2016 to 29-Sep-2016
<b><u>TEST SPECIFICATION</u></b>	: EC Directive 2011/65/EU —The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment — (RoHS)
<b><u>CONCLUSION</u></b>	: 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



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Terric Ji  
Lab Manager

*Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins Product Testing Service (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to [sh.info@eurofins.com](mailto:sh.info@eurofins.com) and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins Product Testing Service (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to [chinacomplaint@eurofins.com](mailto:chinacomplaint@eurofins.com) and referring to this report number.*

**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".

## **EFSH16090939-CG-02**

\*\*\*TO BE CONTINUED\*\*\*

**COMPONENT PHOTO(S)**



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\*\*\*TO BE CONTINUED\*\*\*

## COMPONENT PHOTO(S)



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## EFSH16090939-CG-02

\*\*\*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 ≤ (70-3σ) < X < (130+3σ) ≤ OL	BL ≤ (70-3σ) < X < (130+3σ) ≤ OL	LOD < X < (150+3σ) ≤ OL
Pb	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < X < (1500+3σ) ≤ OL
Hg	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < X < (1500+3σ) ≤ OL
Br	BL ≤ (300-3σ) < X	/	BL ≤ (250-3σ) < X
Cr	BL ≤ (700-3σ) < X	BL ≤ (700-3σ) < X	BL ≤ (500-3σ) < 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	0.01 μg/cm <sup>2</sup>
	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 \*\*\*