

TEST REPORT

APPLICANT : Xindao B.V.

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

SAMPLE DESCRIPTION : COB head torch

ITEM NO. : P513.69

COUNTRY OF ORIGIN : China

COUNTRY OF DESTINATION : Europe

SAMPLE RECEIVED DATE : 24-Oct-2016

SAMPLE RESUBMISSION DATE : 19-Jan-2017

TURN AROUND TIME : 19-Jan-2017 to 09-Feb-2017

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., LtdJoyce Liu
Lab Manager

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SAMPLE PHOTO



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TO BE CONTINUED

COMPONENT PHOTO(S)



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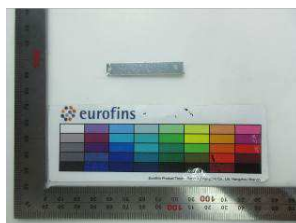
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TO BE CONTINUED

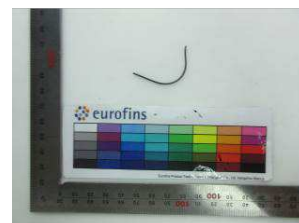
COMPONENT PHOTO(S)



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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	Black plastic block 1	ND	ND	ND	ND	ND
2	Black plastic block 2	ND	ND	ND	ND	ND
3	Black plastic block 3	ND	ND	ND	ND	NC
4	Black plastic block 4	ND	ND	ND	ND	ND
5	Black plastic block 5	ND	ND	ND	ND	ND
6	Black plastic block 6	ND	ND	ND	ND	ND
7	Black plastic block 7	ND	ND	ND	ND	ND
8	Black plastic block 8	ND	ND	ND	ND	ND
9	Black plastic block 9	ND	ND	ND	101	ND
10	Black plastic button	ND	ND	ND	155	NC
11	Black rubber block	ND	ND	ND	129	ND
12	Black fabric with grey embroidery threads	ND	ND	ND	ND	ND
13	Transparent plastic block	ND	ND	ND	ND	ND
14	Circuit board	ND	ND	ND	257	NC
15	Silver metal soldering tin	ND	ND	ND	NC	NA
16	Yellow rubber block	ND	ND	ND	ND	ND
17	Silver plastic block	ND	ND	ND	ND	ND
18	Black rubber wire sheath	ND	ND	ND	453	ND
19	Red rubber wire sheath	ND	ND	ND	441	ND
20	Red rubber block	ND	ND	ND	ND	ND
21	Copper metal wire	ND	ND	ND	NC	NA
22	Silver metal screw 1	ND	ND	ND	NC	NA
23	Silver metal screw 2	ND	ND	ND	NC	NA
24	Silver metal screw 3	ND	ND	ND	NC	NA
25	Silver metal connective sheet 1	ND	ND	ND	NC	NA
26	Silver metal connective sheet 2	ND	ND	ND	NC	NA
27	Silver metal sheet	ND	ND	ND	NC	NA
28	Silver metal spring	ND	ND	ND	NC	NA
29	Silver metal nut	ND	ND	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.

TO BE CONTINUED

TEST RESULT

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)			

Component No.	Boiling-water-extraction for Cr(VI) (*1)
15	Negative
21	Negative
22	Negative
23	Negative
24	Negative
25	Negative
26	Negative
27	Negative
28	Negative
29	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 0.10µg/cm².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
3	-	-	-	-	ND	282
10	-	-	-	-	ND	ND
14	-	-	-	-	ND	ND

Note:

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

MDL = method detection limit

ND = not detected (<MDL)

mg/kg = milligram per kilogram

µg/cm²= micrograms per square

*** END OF THE REPORT ***