



TEST REPORT

Test Report # R-cn5-1603915-3-E Date of Report Issue: 11/04/2016
Date of Sample Received: 10/10/2016 Page 1 of 5

CLIENT INFORMATION:

Company:

Address:

Recipient Email:



SAMPLE INFORMATION:

Product Name: Small COB light with carabiner
Item number supplier: - Purchase Order Number: -
SKU/Model/style No.: P513.11* Country of Origin: -
Country of Distribution: - Labeled Age Grade: -
Buyer/Factory: - Recommended Age Grade: -
Supplier/Vendor: - Tested Age Grade: -
Testing Period: 10/10/2016-11/02/2016

OVERALL RESULT:

PASS

At the request of the client, the following tests were conducted:

CONCLUSION	TEST(S) CONDUCTED
PASS	RoHS – XRF Scanning (Pb, Hg, Cd, Cr, Br) + chemical method
PASS	2013/56/EU-Batteries and accumulators

Approved by:

Kevin Lee

Technical Manager:

Kevin Lee

Issued Date:

Nov.04, 2016

No. 16113915





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DETAILED RESULTS

RoHS - XRF Scanning (Pb, Hg, Cd, Cr, Br) + chemical method

Test method: (1) With reference to IEC 62321-3-1:2013, determination of Cadmium, Lead, Mercury, Chromium and Br by XRF;
(2) With reference of IEC 62321-4:2013, IEC 62321-5:2013 to determine Cadmium, Lead and Mercury by ICP-OES;
(3) With reference of IEC 62321:2008, IEC 62321-7-1:2015 to determine Hexavalent Chromium by UV-Vis
(4) With reference of IEC 62321-6:2015 to determine PBBs and PBDEs by GC-MS.

No.	Parts Name	Test Item						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
001	Metal shell	ND	ND	ND	Ne	-	-	PASS
002	Coating	BL	BL	BL	BL	BL	BL	PASS
003	Silver plastic protegulum	BL	BL	BL	BL	BL	BL	PASS
004	Black rubber button	BL	BL	BL	BL	BL	BL	PASS
005	Silver metal ring	ND	ND	ND	Ne	-	-	PASS
006	Grey lobster clasp-grey coating	BL	BL	BL	BL	BL	BL	PASS
007	Grey lobster clasp-metal base material	ND	ND	ND	Ne	-	-	PASS
008	Lobster clasp-silver metal button	ND	ND	ND	Ne	-	-	PASS
009	Lobster clasp-spring in the metal button	ND	ND	ND	Ne	-	-	PASS
010	PCB board	BL	BL	BL	BL	ND	ND	PASS
011	PCB board-spring	ND	ND	ND	Ne	-	-	PASS
012	Welding and soldering in PCB board	158	ND	ND	Ne	-	-	PASS
013	Maize-yellow plastic	BL	BL	BL	BL	BL	BL	PASS
014	The spring on the maize-yellow plastic	ND	ND	ND	Ne	-	-	PASS
015	Rectangular slab	ND	ND	ND	Ne	-	-	PASS
016	Rectangular slab-yellow rubber	BL	BL	BL	BL	BL	BL	PASS
017	Red line peel	BL	BL	BL	BL	BL	BL	PASS
018	Blue line peel	BL	BL	BL	BL	BL	BL	PASS
019	Copper wire	ND	ND	ND	Ne	-	-	PASS
020	Welding and soldering in wire	255	ND	ND	Ne	-	-	PASS
021	Transparence rectangular slab	BL	BL	BL	BL	BL	BL	PASS
023	Round piece	BL	BL	BL	BL	BL	BL	PASS



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DETAILED RESULTS

No.	Parts Name	Test Item						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
024	White plastic button	BL	BL	BL	BL	BL	BL	PASS
025	Button-silver metal contact chip	ND	ND	ND	Ne	-	-	PASS
026	Button-silver raised metal	ND	ND	ND	Ne	-	-	PASS
027	Button-spring	ND	ND	ND	Ne	-	-	PASS
028	Blue coating	BL	BL	BL	BL	BL	BL	PASS
029	Red coating	BL	BL	BL	BL	BL	BL	PASS

2013/56/EU-Batteries and accumulators

Components and Parts Name	Item	MDL	Result	Limit
022: Button battery	Cadmium(Cd)	2	ND	20
	Lead(Pb)	2	ND	40
	Mercury(Hg)	2	ND	5

Parameter:	Unit	Requirement	Method Detection Limit (MDL)
Lead (Pb)	mg/kg	1000	15
Cadmium (Cd)	mg/kg	100	15
Mercury (Hg)	mg/kg	1000	15
Chromium VI (Cr VI)	mg/kg	1000	15
Group PBBs	mg/kg	1000	20
Group PBDEs	mg/kg	1000	20

As specified by client, with XRF analysis toxic harmful substance content, All kinds of matrixs screening of the element is limited see chart (Unit: mg/kg)

Elements	Polymer material	Metal material/ Inorganic nonmetallic material	Electronic component
Lead (Pb)	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cadmium (Cd)	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Mercury (Hg)	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Chromium (Cr)	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Bromine (Br)	$BL \leq (300-3\sigma) < X$	/	$BL \leq (250-3\sigma) < X$



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Note:

1. Unit: mg/kg. 1mg/kg=1ppm=0.0001%
2. MDL=Method Detection Limit
3. ND=Not Detected(< MDL)
4. "-"= Not Regulated or Not Applicable
5. 3σ = Analysis shows that the instrument reproducibility
6. BL=Below Limit; OL=Over Limit
7. Ne=Negative, Absence of Cr(VI), the concentration of Cr (VI) in sample solution is less than $0.10\mu\text{g}/\text{cm}^2$.
Po = Positive, Presence of Cr(VI), the concentration of Cr (VI) in sample solution is more than $0.13\mu\text{g}/\text{cm}^2$.
8. "Results of XRF" is the result on total Br and total Cr while restricted substances are PBBs/PBDEs and Cr(VI).



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SAMPLE PHOTO:

