

RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 1 of 8

Customer: Ningbo Meike Lighting CO., LTD.

Address: North 2102, Yinzhou Chamber Of Commerce, No. 1299 Yinxian Avenue, Ningbo, China, 315199

Client No.: 05746345

Report on the submitted sample said to be:

Sample name: Camping Light

Model No.: MK-5621, MK-5622, MK-5623, MK-6021, MK-6022, MK-6026, MK-6027, MK-7022,
MK-7211, MK-7253, MK-7312, MK-7605, MK-7607, MK-7609, MK-8505, MK-8506

Sample Model: MK-6022

Manufacturer: Ningbo Meike Lighting CO., LTD.

Address: North 2102, Yinzhou Chamber Of Commerce, No. 1299 Yinxian Avenue, Ningbo, China, 315199

Sample received date: Apr. 18, 2024

Testing period: From Apr. 18, 2024 to Apr. 25, 2024

Testing method:

With reference to IEC 62321:2008 Ed 1.0, IEC 62321:2013 Ed 1.0

(1) Section 6: Screening by X-ray Fluorescence Spectrometry (XRF)

(2) Chemical test:



Company No. 07113834

Testing Item	Pretreatment method	Measuring instrument	MQL
Lead (Pb)	IEC 62321-5:2013 Ed 1.0, section 7.3	ICP-OES	2mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed 1.0, section 7.3	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed 1.0, section 7.2	ICP-OES	2 mg/kg
Chromium (Cr VI)	IEC 62321:2008 Ed 1.0, Annex C	UV-VIS	2 mg/kg 0.02 mg/kg*
PBBs/ PBDEs	IEC 62321:2008 Ed 1.0, Annex A	GC-MS	5 mg/kg

Note:*0.02mg/kg refers to the MQL of sample extraction liquid.

Conclusion

Tested samples Screening components of submitted samples

Standard..... Screening by XRF spectroscopy and chemical confirmation test for RoHS directive (2011/65/EU)
and its subsequent amendments Directive (EU) 2015/863

Result..... Pass

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

Written by: _____

(Anna)

Inspected by: _____

(Joseph)

Approved by: _____

(Robert)*



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RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 2 of 8

Test Results:

Part No.	Sample Name	XRF Results(mg/kg)		Chemical Confirmation Result(mg/kg)
1	Black wire	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
2	Red wire	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
3	Screw	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	623.5907	
		Br	N.A.	
4	Black plastic shell	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	10.2974	
		Br	26.1417	
5	Circular metal	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
6	Sponge	Pb	20.0408	---
		Cd	8.5757	
		Hg	N.D.	
		Cr	14.8598	
		Br	19.7083	

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RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 3 of 8

Part No.	Sample Name	XRF Results(mg/kg)		Chemical Confirmation Result(mg/kg)
7	Tin solder	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
8	Square magnet	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
9	Battery(remote control)	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	85.1885	
		Br	N.D.	
10	Battery(Light)	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
11	Lampshade	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
12	LED strip light	Pb	256.0139	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	14.2535	

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RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 4 of 8

Part No.	Sample Name	XRF Results(mg/kg)		Chemical Confirmation Result(mg/kg)
13	Metal contact	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	138.0127	
		Br	N.A.	
14	Spring	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
15	White foam	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
16	USB interface metal	Pb	N.D.	---
		Cd	32.6895	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.A.	
17	USB interface plastics	Pb	N.D.	---
		Cd	N.D.	
		Hg	N.D.	
		Cr	N.D.	
		Br	N.D.	
18	PCB	Pb	138.127	---
		Cd	5.084	
		Hg	N.D.	
		Cr	91.9386	
		Br	37411.2282	PBBs:N.D. PBDEs:N.D.

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RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 5 of 8

Remark:

N.D. = Not Detected

N.A. = Not Applicable

-Specimens, which requested to determine Cadmium, Mercury and Lead Content by chemical test, have been dissolved completely.

- mg/kg = ppm

(#1) = The screening result was found in the region of inconclusive (See Table B) and further chemical tests were suggested.

(#2) = Cr or Br were detected above the screening Limit (See Table B) and further chemical tests were suggested.

(#3) = Exceeded Screening Limit but if sample is electronic component. The lead content in glass of electronic components is exempted from the requirement of RoHS Directive (2011/65/EU)

(#4) = Exceeded Screening Limit but if sample is copper alloy. The lead content which is under 4% (40000ppm) is exempted from the requirement of RoHS Directive (2011/65/EU)

OL= OVER LIMIT

BL=BELOW LIMIT

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RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 6 of 8

Remark:

(A) "BELOW LIMIT" (BL) or "OVER LIMIT" (OL) determination will be set at 30 % (50 % for composite materials) less than or greater than the limit, respectively. The margins of safety have been agreed upon based on the experience of many experts and practitioners in the industry. Further explanation for this approach to estimating uncertainty.

-The symbol "X" marks the region, where further investigation is necessary.

-LOD means Limit of Detection.

-The term "3σ" expresses the repeatability of the analyzer at the action level.

(B) XRF Screening Limit in mg/kg for regulated elements in various matrices.

Polymer materials	Metallic materials	Composite materials
$BL \leq (70 - 3\sigma) < X < (130 + 3\sigma) \leq OL$	$BL \leq (70 - 3\sigma) < X < (70 + 3\sigma) \leq OL$	$LOD < X < (150 + 3\sigma) \leq OL$
$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (500 - 3\sigma) < X < (1500 + 3\sigma) \leq OL$
$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (500 - 3\sigma) < X < (1500 + 3\sigma) \leq OL$
$BL \leq (700 - 3\sigma) < X$	$BL \leq (700 - 3\sigma) < X$	$BL \leq (500 - 3\sigma) < X$
$BL \leq (300 - 3\sigma) < X$	Not Applicable	$BL \leq (250 - 3\sigma) < X$

(C) RoHS Requirement

Restricted substances	Limits
Lead (Pb)	0.1% (1000 ppm)
Cadmium (Cd)	0.01% (100 ppm)
Mercury (Hg)	0.1% (1000 ppm)
Chromium(VI) (Cr ⁶⁺)	0.1% (1000 ppm)
Polybrominated biphenyls (PBBs)	0.1% (1000 ppm)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 ppm)

The above limits were quoted from 2011/65/EU.

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RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 7 of 8

Remark:

-Chemical confirmation tests were conducted to verify the inconclusive results, Chromium (VI) (Cr^{6+}), Polybrominated biphenyls(PBBs) and Polybrominated diphenyl ethers(PBDEs) content.

-As requested by the applicant, only components shown in this report were screened by XRF spectroscopy for 2011/65/EU, other components were not screened included in this report.

Disclaimers:

This XRF Screening Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening Report is sufficient for its/his/her purposes. The results shown in this XRF Screening Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect

(e.g. Plastic, Rubber, Metal, Glass, Ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

- Photos are included.

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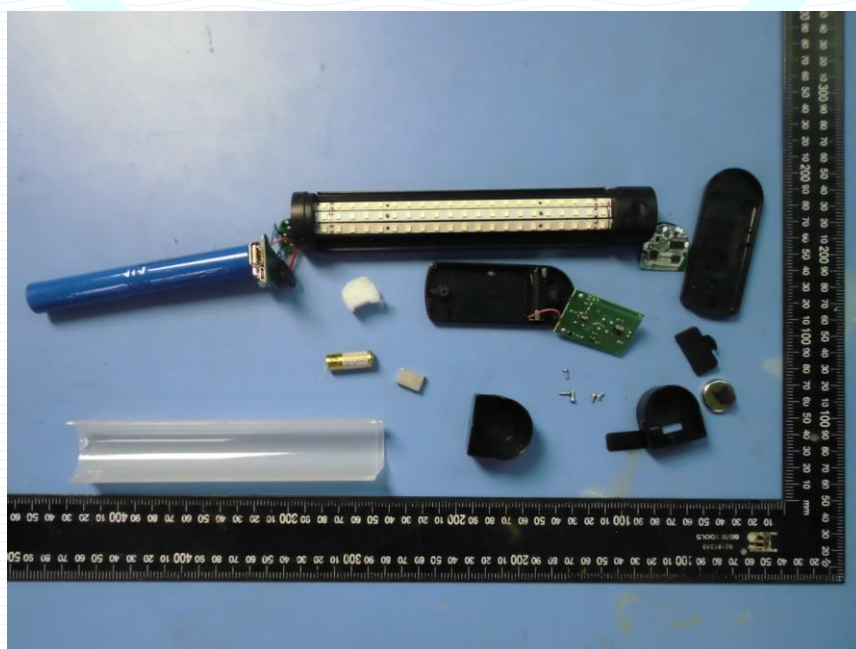
RoHS TEST REPORT

NO.: B-R240417205

Date: Apr. 25, 2024

Page 8 of 8

Photographs of Samples



End of Report

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