

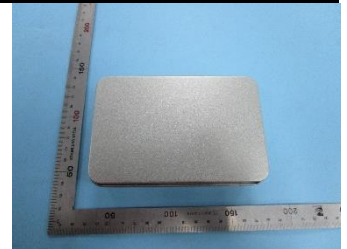


TEST REPORT

Test Report # 19A-000771-2 Date of Report Issue: March 27, 2019
 Date of Sample Received: February 28, 2019 Pages: Page 1 of 13

CLIENT INFORMATION:

Company: Mid Ocean Brands B.V.
 Address: 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong



SAMPLE INFORMATION:

Product Name: ①9 WHITE LED TORCH, ②TIN BOX SET
 Model/style No.: ①KC6860/MO8559/MO8680, ②KC6860
 Main Material: ①Aluminum alloy, ②iron
 Buyer: Mid Ocean Brands B.V.
 Supplier: 100396
 Country of Distribution: Europe
 Testing Period: 02/28/2019-03/08/2019, 03/19/2019-03/21/2019, 03/25/2019-03/27/2019

OVERALL RESULT:

PASS

Refer to page 2 for test result summary and appropriate notes.

HANGZHOU ASIAINSPECTION
 TESTING TECHNOLOGY CO., LTD

Kevin Lee

Kevin Lee
 Technical Manager





TEST REPORT

Test Report # 19A-000771-2 Date of Report Issue: March 27, 2019
Date of Sample Received: February 28, 2019 Pages: Page 2 of 13

TEST RESULTS SUMMARY:

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

CONCLUSION	TEST(S) CONDUCTED
PASS	Directive 2011/65/EU and it's amend regulation 2015/863/EU, Restriction of the Use of Certain Hazardous Substances (RoHS)
PASS	2013/56/EU-Batteries and accumulators

Remark: Test results are transferred from test report no. 19A-000771-1 date: 03/27/2019



**DETAILED RESULTS:****Directive 2011/65/EU and it's amend regulation 2015/863/EU, Restriction of the Use of Certain Hazardous Substances (RoHS)**

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/AMD1:2017, IEC 62321-5:2013 to determine Cadmium, Lead and Mercury by ICP-OES;
- (3) With reference of IEC62321-7-1:2015, IEC62321-7-2:2017 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 (mg/kg)						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
1	Silvery metal upper cover	ND	ND	ND	Ne	-	-	PASS
2	Silvery metal shell	ND	ND	ND	Ne	-	-	PASS
3	Black sponge mat	BL	BL	BL	BL	BL	BL	PASS
4	Black sponge holder	BL	BL	BL	BL	BL	BL	PASS
5	Silvery metal shell-silvery coating	BL	BL	BL	BL	BL	BL	PASS
6	Silvery metal end cover	ND	ND	ND	Ne	-	-	PASS
7	Silvery metal end cover-black coating	BL	BL	BL	BL	BL	BL	PASS
8	White plastic end cover	BL	BL	BL	BL	BL	BL	PASS
9	Black soft plastic button	BL	BL	BL	BL	BL	BL	PASS
10	Black soft plastic washer	BL	BL	BL	BL	BL	BL	PASS
11	Tact switch-white plastic button	BL	BL	BL	BL	BL	BL	PASS
12	Tact switch-black plastic button	BL	BL	BL	BL	BL	BL	PASS
13	Tact switch-silvery metal button	ND	ND	ND	Ne	-	-	PASS
14	Tact switch-white plastic upper cover	BL	BL	BL	BL	BL	BL	PASS
15	Tact switch-white plastic lower cover	BL	BL	BL	BL	BL	BL	PASS
16	Tact switch-black metal spring	ND	ND	ND	Ne	-	-	PASS
17	Tact switch-silvery metal spring	ND	ND	ND	Ne	-	-	PASS
18	Tact switch-silvery metal shrapnel	ND	ND	ND	Ne	-	-	PASS
19	Black stay cord	BL	BL	BL	BL	BL	BL	PASS
20	Black stay cord-silvery metal button	ND	ND	ND	Ne	-	-	PASS
21	Black stay cord-silvery metal ring	ND	ND	ND	Ne	-	-	PASS
22	Black plastic inner shell	BL	BL	BL	BL	BL	BL	PASS
23	Silvery metal shrapnel	ND	ND	ND	Ne	-	-	PASS
24	Silvery metal spring	ND	ND	ND	Ne	-	-	PASS
25	Transparent plastic upper cover	BL	BL	BL	BL	BL	BL	PASS
26	Silvery plastic holder	BL	BL	BL	BL	BL	BL	PASS
27	Green PCB board	BL	BL	BL	BL	BL	BL	PASS
28	Green PCB board-soldering tin	ND	ND	ND	BL	-	-	PASS



**DETAILED RESULTS:**

No.	Parts Name	Test Item (mg/kg)						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
29	Green PCB board-silvery metal spring	ND	ND	ND	Ne	-	-	PASS
30	Light-transparent plastic shell	BL	BL	BL	BL	ND	ND	PASS
31	Light-wick	BL	BL	BL	BL	BL	BL	PASS
32	Light-pin	ND	ND	ND	Ne	-	-	PASS
33	Silvery metal main body	ND	ND	ND	Ne	-	-	PASS
35	Yellow metal spring	ND	ND	ND	Ne	-	-	PASS

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 matrixes 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)	$BL \leq (300-3\sigma) < X$	-	$BL \leq (250-3\sigma) < X$



**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).

Remark:

The test is carried out by external laboratory assessed as competent



**DETAILED RESULTS:****Directive 2011/65/EU and it's amend regulation 2015/863/EU, Restriction of the Use of Certain Hazardous Substances (RoHS) (DBP, BBP, DEHP, DIBP)**

Test Method: IEC 62321-8:2017
 Analytical Method: Gas Chromatography/Mass Spectrometry

Specimen No.	3	4	5	7	8	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
DBP	ND	ND	ND	ND	ND	1000
BBP	ND	ND	ND	ND	ND	1000
DEHP	ND	ND	ND	ND	ND	1000
DIBP	ND	ND	ND	ND	ND	1000
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	9	10	11	12	14	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
DBP	ND	ND	ND	ND	ND	1000
BBP	ND	ND	ND	ND	ND	1000
DEHP	ND	ND	ND	ND	ND	1000
DIBP	ND	ND	ND	ND	ND	1000
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:

DBP = Dibutyl phthalate; BBP = Benzyl butyl phthalate; DEHP = Di-(2-ethylhexyl) phthalate
 DIBP = Di-iso-Butylphthalate Phthalate;
 mg/kg = Milligrams per kilogram
 ND = Not detected (Reporting Limit =150mg/kg)





DETAILED RESULTS:

Directive 2011/65/EU and it's amend regulation 2015/863/EU, Restriction of the Use of Certain Hazardous Substances (RoHS) (DBP, BBP, DEHP, DIBP)

Test Method: IEC 62321-8:2017
Analytical Method: Gas Chromatography/Mass Spectrometry

Specimen No.	15	22	25	26	30	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
DBP	ND	ND	ND	ND	ND	1000
BBP	ND	ND	ND	ND	ND	1000
DEHP	ND	ND	ND	ND	ND	1000
DIBP	ND	ND	ND	ND	ND	1000
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:

DBP = Dibutyl phthalate; BBP = Benzyl butyl phthalate; DEHP = Di-(2-ethylhexyl) phthalate
DIBP = Di-iso-Butylphthalate Phthalate;
mg/kg = Milligrams per kilogram
ND = Not detected (Reporting Limit =150mg/kg)





DETAILED RESULTS:

2013/56/EU-Batteries and accumulators

Components and Parts Name	Item	MDL (mg/kg)	Result (mg/kg)	Limit (mg/kg)
34:Battery	Cadmium (Cd)	5	ND	20
	Lead (Pb)	5	52*	40
	Mercury (Hg)	5	ND	5
Conclusion	-	-	PASS	-

Note:

mg/kg = Milligrams per kilogram

MDL=Method Detection Limit

ND = Not detected (< MDL)

* = Batteries and accumulators

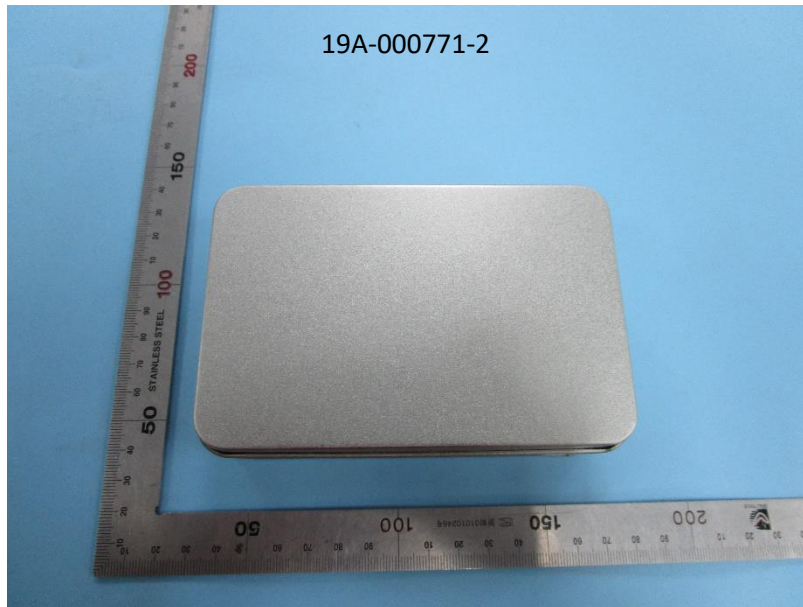
@: Batteries, accumulators and button cells containing more than 0.004% lead shall be marked with the chemical symbol for the metal concerned: Pb (40 mg/kg =0.004%)

#: Although the Lead content is exceed the limit, but the product has a correct Logo. It's comply with Batteries and accumulators EC Directive 2006/66/EC and Amendment 2013/56/EU.





SAMPLE PHOTO:



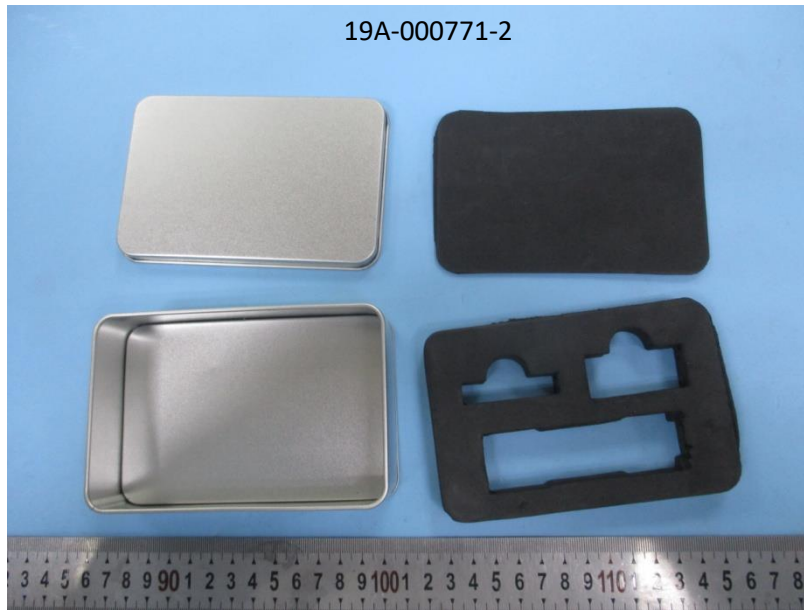


SAMPLE PHOTO:



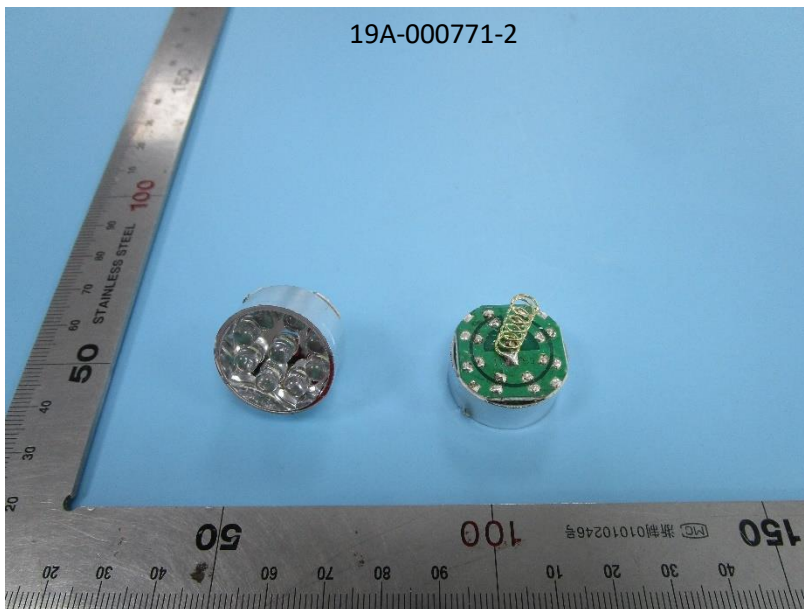


SAMPLE PHOTO:





SAMPLE PHOTO:





SAMPLE PHOTO:



-End Report-

