



TEST REPORT

Test Report # 19A-000747-2-S1 Date of Report Issue: April 1, 2019
 Date of Sample Received: February 27, 2019 Pages: Page 1 of 11

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: Safety light with multi tools
 Model/style No.: MO8901
 Main Material: ABS, Stainless steel
 Buyer: Mid Ocean Brands B.V.
 Supplier: 100396
 Country of Distribution: Europe
 Testing Period: 02/27/2019-03/07/2019, 03/25/2019-03/29/2019, 04/01/2019-04/01/2019

OVERALL RESULT:

PASS

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

HANGZHOU ASIAINSPECTION
 TESTING TECHNOLOGY CO., LTD

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 Technical Manager





TEST REPORT

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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) |

Remark: *Revised information and supersedes the previous report no.19A-000747-1-S1 date:04/01/2019



**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 end cover | ND | ND | ND | Ne | - | - | PASS |
| 2 | Transparent plastic end cover | BL | BL | BL | BL | BL | BL | PASS |
| 3 | Red plastic shell | BL | BL | BL | BL | BL | BL | PASS |
| 4 | Black plastic shell | BL | BL | BL | BL | BL | BL | PASS |
| 5 | White metal end cover | BL | BL | BL | BL | BL | BL | PASS |
| 6 | White metal end cover-silvery metal screw | ND | ND | ND | Ne | - | - | PASS |
| 7 | Black PCB board | BL | BL | BL | BL | BL | BL | PASS |
| 8 | Black PCB board-soldering tin | 676 | ND | ND | BL | - | - | PASS |
| 9 | Light-transparent plastic shell | BL | BL | BL | BL | BL | BL | PASS |
| 10 | Light-SMD LED light | BL | BL | BL | BL | BL | BL | PASS |
| 11 | Light-white plastic base | BL | BL | BL | BL | BL | BL | PASS |
| 12 | Light-metal shrapnel | ND | ND | ND | Ne | - | - | PASS |
| 13 | Light-transparent glue | BL | BL | BL | BL | BL | BL | PASS |
| 14 | Green PCB board | BL | BL | BL | BL | BL | BL | PASS |
| 15 | Green PCB board-soldering tin | 715 | ND | ND | BL | - | - | PASS |
| 16 | Green PCB board-SMD capacitor | BL | BL | BL | BL | BL | BL | PASS |
| 17 | Green PCB board-SMD resistor | BL | BL | BL | BL | BL | BL | PASS |
| 18 | Green PCB board-triode | BL | BL | BL | BL | BL | BL | PASS |
| 19 | Green PCB board-triode pin | ND | ND | ND | Ne | - | - | PASS |
| 20 | Green PCB board-metal shrapnel | ND | ND | ND | Ne | - | - | PASS |
| 21 | Green PCB board-metal spring | ND | ND | ND | Ne | - | - | PASS |
| 22 | Red wire sheath | BL | BL | BL | BL | BL | BL | PASS |
| 23 | Copper wire | ND | ND | ND | Ne | - | - | PASS |
| 24 | Black plastic sleeve | BL | BL | BL | BL | BL | BL | PASS |
| 25 | Silvery metal sleeve | ND | ND | ND | Ne | - | - | PASS |
| 26 | Silvery metal sleeve-soldering tin | 421 | ND | ND | BL | - | - | PASS |
| 27 | Black plastic inner shell | BL | BL | BL | BL | BL | BL | PASS |



**DETAILED RESULTS:**

| No. | Parts Name | Test Item (mg/kg) | | | | | | Conclusion |
|-----|---|-------------------|----|----|------|------|-------|------------|
| | | Pb | Cd | Hg | CrVI | PBBs | PBDEs | |
| 28 | Yellow metal shrapnel | ND | ND | ND | Ne | - | - | PASS |
| 29 | Yellow metal spring | ND | ND | ND | Ne | - | - | PASS |
| 30 | Black plastic main body | BL | BL | BL | BL | BL | BL | PASS |
| 31 | Black plastic main body-silvery metal screw | ND | ND | ND | Ne | - | - | PASS |
| 32 | Silvery metal ring | ND | ND | ND | Ne | - | - | PASS |
| 33 | Silvery metal shell | ND | ND | ND | Ne | - | - | PASS |
| 34 | Faint yellow hot melt adhesive | BL | BL | BL | BL | BL | BL | PASS |
| 35 | Silvery metal small blade | ND | ND | ND | Ne | - | - | PASS |
| 36 | Silvery metal cone | 64 | ND | ND | Ne | - | - | PASS |
| 37 | Silvery metal pole | ND | ND | ND | Ne | - | - | PASS |
| 38 | Silvery metal big spring | ND | ND | ND | Ne | - | - | PASS |
| 39 | Black plastic sleeve | BL | BL | BL | BL | BL | BL | PASS |
| 40 | Grey metal holder | 64 | ND | ND | Ne | - | - | PASS |
| 41 | Silvery metal spring | ND | ND | ND | Ne | - | - | PASS |
| 42 | Black plastic plectrum | BL | BL | BL | BL | BL | BL | PASS |
| 43 | Switch-green soft plastic button | BL | BL | BL | BL | BL | BL | PASS |
| 44 | Switch-black plastic button | BL | BL | BL | BL | BL | BL | PASS |
| 45 | Switch-white plastic button | BL | BL | BL | BL | BL | BL | PASS |
| 46 | Switch-silvery metal button | ND | ND | ND | Ne | - | - | PASS |
| 47 | Switch-silvery metal small spring | ND | ND | ND | Ne | - | - | PASS |
| 48 | Switch-black plastic upper cover | BL | BL | BL | BL | BL | BL | PASS |
| 49 | Switch-black plastic lower cover | BL | BL | BL | BL | BL | BL | PASS |
| 50 | Switch-silvery metal big spring | ND | ND | ND | Ne | - | - | PASS |
| 51 | Switch-silvery electrode slice | ND | ND | ND | Ne | - | - | PASS |
| 52 | Switch-soldering tin | 157 | ND | ND | BL | - | - | PASS |
| 53 | Switch-silvery metal end cover | 24180* | ND | ND | Ne | - | - | PASS |
| 54 | Switch-silvery metal shrapnel | ND | ND | ND | Ne | - | - | PASS |
| 55 | Switch-white wire sheath | BL | BL | BL | BL | BL | BL | PASS |
| 56 | Switch-copper wire | ND | ND | ND | Ne | - | - | PASS |
| 57 | Switch-yellow metal pillar | 184 | ND | ND | Ne | - | - | PASS |
| 58 | Switch-metal small spring | ND | ND | ND | Ne | - | - | PASS |
| 59 | Yellow metal pillar-soldering tin | 198 | ND | ND | BL | - | - | PASS |
| 60 | Tool kit-grey metal end cover | ND | ND | ND | Ne | - | - | PASS |
| 61 | Tool kit-silvery metal holder | ND | ND | ND | Ne | - | - | PASS |
| 62 | Tool kit-silvery metal shaft | ND | ND | ND | Ne | - | - | PASS |
| 63 | Silvery metal tool | 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:

- Unit: mg/kg, 1mg/kg=1ppm=0.0001%
- MDL=Method Detection Limit
- ND=Not Detected(< MDL)
- "-"= Not Regulated or Not Applicable
- 3σ = Analysis shows that the instrument reproducibility
- BL=Below Limit; OL=Over Limit
- 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 $0.13\mu\text{g}/\text{cm}^2$.
- "Results of XRF" is the result on total Br and total Cr while restricted substances are PBBs/PBDEs and Cr(VI).
- *= Exemption item
6(c) Copper alloy containing up to 4% lead by weight



**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. | 2 | 3 | 4 | 5 | 11 | 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. | 13 | 22 | 24 | 27 | 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:

***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. | 34 | 39 | 42 | 55 | --- | 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 | --- | 1000 |
| BBP | ND | ND | ND | ND | --- | 1000 |
| DEHP | ND | ND | ND | ND | --- | 1000 |
| DIBP | ND | ND | ND | ND | --- | 1000 |
| Conclusion | 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)





SAMPLE PHOTO:



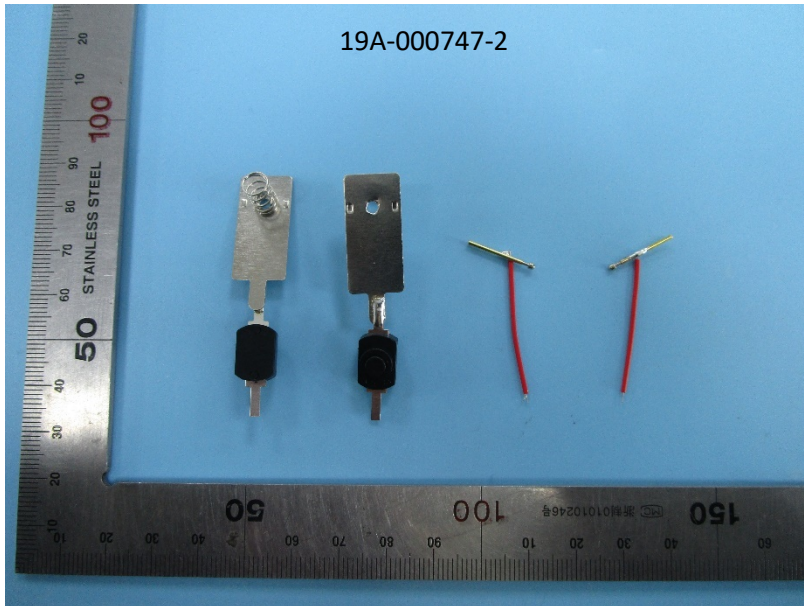


SAMPLE PHOTO:



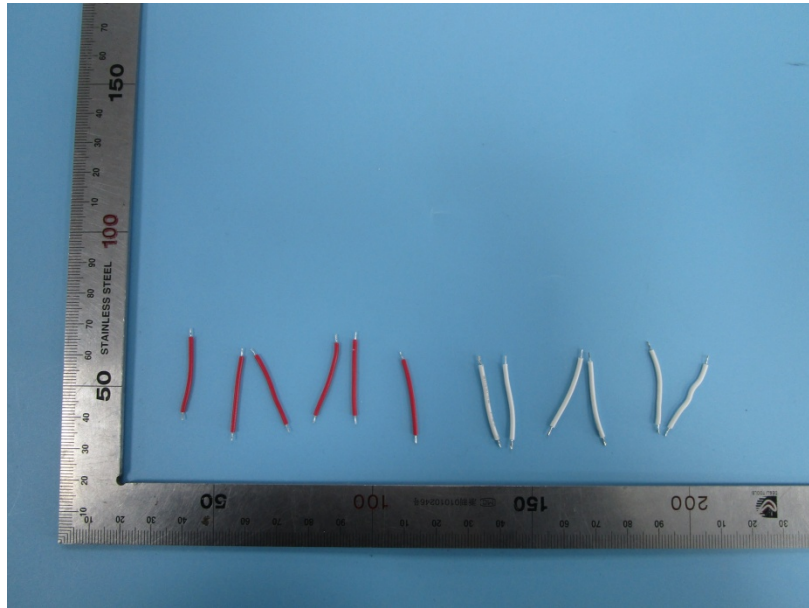


SAMPLE PHOTO:





***SAMPLE PHOTO:**



-End Report-

