

TEST REPORT

Test Report # 23A-000932(A1) Date of Report Issue: February 24, 2023
Date of Sample Received: February 13, 2023 Pages: Page 1 of 7

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: MINI TOOL SET WITH LED LIGHT
Style No.: IT3874 Labeled Age Grade: -
Order No.(PO No.): - Client Request Age Grade: -
Country of Origin: - Recommended Age Grade: -
Country of Distribution: Europe Tested Age Grade: -
Composition/Main Material: ABS, aluminum
Testing Period: 02/13/2023-02/24/2023

OVERALL RESULT:

 **PASS**

Please refer to the following pages for test result summary and appropriate notes.

QIMA (HANGZHOU) TESTING CO., LTD.

Jeremy Xu
Chemical Laboratory Supervisor



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Test(s) marked with 'φ' was subcontracted to external laboratory.

The test result(s) and conclusion(s) in this report relate only to the sample(s) as received and method /regulation section(s) tested as described herein.

If it is not further specified in the report, the decision rule for stating conformity is based on the QIMA decision rule

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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 its amendment Directive (EU) 2015/863, Restriction of the Use of Certain Hazardous Substances (RoHS), Heavy metals and Flame retardants content (Pb, Cd, Hg, Cr (VI), PBBs and PBDEs)
PASS	Directive 2011/65/EU and its amendment Directive (EU) 2015/863, Restriction of the Use of Certain Hazardous Substances (RoHS), Phthalates Content (DBP, BBP, DEHP, DIBP)
PASS	EC Directive 2006/66/EC and Amendment 2013/56/EU, Lead, cadmium and mercury content



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DETAILED RESULTS:

Directive 2011/65/EU and its amendment Directive (EU) 2015/863, Restriction of the Use of Certain Hazardous Substances (RoHS), Heavy metals and Flame retardants content (Pb, Cd, Hg, Cr (VI), PBBs and PBDEs)

Test Method: IEC 62321-3-1:2013 for Cadmium, Lead, Mercury, Chromium and Bromine by XRF
 IEC 62321-4:2013/AMD1:2017 for Mercury by ICP-OES
 IEC 62321-5:2013 for Lead, Cadmium and Chromium by ICP-OES
 IEC 62321-6:2015 for PBBs and PBDEs by GC-MS
 IEC 62321-7-1:2015, IEC62321-7-2:2017 for Hexavalent Chromium by UV- Vis#

Analytical Method: X-ray Fluorescence Spectrometry
 Inductively Coupled Plasma-Optical Emission Spectrometry
 Gas Chromatography Mass Spectrometry
 UV-Visible Spectrophotometry

No.	Parts Name	Test Item (mg/kg)						Conclusion
		Pb	Cd	Hg	CrVI	PBBs	PBDEs	
1	Packaging bag	BL	BL	BL	BL	BL	BL	PASS
2	Plastic shell with black /silver coating	BL	BL	BL	BL	ND	ND	PASS
3	Black coating	BL	BL	BL	BL	ND	ND	PASS
4	Silver coating	BL	BL	BL	BL	ND	ND	PASS
5	Gray plastic bracket	BL	BL	BL	BL	BL	BL	PASS
6	Screwdriver	BL	BL	BL	BL	-	-	PASS
7	Black plastic button	BL	BL	BL	BL	BL	BL	PASS
8	Black plastic shell	BL	BL	BL	BL	BL	BL	PASS
9	Metal spring	BL	BL	BL	BL	-	-	PASS
10	Silver metal sheet	BL	BL	BL	BL	-	-	PASS
11	Lamp-shade	BL	BL	BL	BL	ND	ND	PASS
12	Lamp-wick	BL	BL	BL	BL	BL	BL	PASS
13	Lamp-pin	BL	BL	BL	BL	-	-	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



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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= Milligrams per kilogram, 1mg/kg=1ppm=0.0001%
- MDL=Method Detection Limit
- “-”= Not Regulated or Not Applicable
- 3σ = Analysis shows that the instrument reproducibility
- BL = Below Limit by XRF screening;
OL = Over Limit by XRF screening.
- ND=Not Detected (< MDL), Result reported with wet chemical confirmation test with ICP-OES
- 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 $0.13\mu\text{g}/\text{cm}^2$.
Result reported with wet chemical confirmation test with UV-Vis.
- “Results of XRF” is the result on total Br and total Cr while restricted substances are PBBs/PBDEs and Cr(VI).



DETAILED RESULTS:

Directive 2011/65/EU and its amendment Directive (EU) 2015/863, Restriction of the Use of Certain Hazardous Substances (RoHS), Phthalates Content (DBP, BBP, DEHP, DIBP)

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

Specimen No.	1	2+3+4	5+7+8	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	---	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)



DETAILED RESULTS:

EC Directive 2006/66/EC and Amendment 2013/56/EU, Lead, cadmium and mercury content

Test Method: US EPA 3052:1996 & US EPA 6010D:2014
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

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

Note:

mg/kg = Milligrams per kilogram
MDL=Method Detection Limit
ND = Not detected (< MDL)



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SAMPLE PHOTO:



-End Report-

