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Applicant: Mid Ocean Brands B.V.

Address : 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.

Manufacturer : Mid Ocean Brands B.V.

Address : 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.

The following sample(s) was /were submitted and identified on behalf of the clients as:

Sample Name : Wireless charger

Sample Model : MO2431

Sample Received Date : Nov.13, 2024

Testing Period : Nov.13, 2024 To Dec.16, 2024

Test requirements and

conclusions

: Please refer to next page(s).

Andy Zheng Technical Directol



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Test Requested and Conclusion(s):

No.	Standard and Requirement	Conclusion(s)
1	RoHS Directive 2011/65 / EU	DACC
1	- XRF scanning	PASS
	RoHS Directive 2011/65/EU and its subsequent amendments (EU)	
	2015/863	
2	- Pb/Cd/Hg/CrVI Content	PASS
2	- Polybrominated diphenyl ethers(PBDEs)	PASS
	- Polybrominated biphenyls (PBBs)	
	- Phthalates	



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Sample description

Sample No	Sample description	Test photo group
1	Dark brown wood with adhesive	
2	Silver metal (shell)	
3	White soft plastic with adhesive tape	
4	Silver metal (screw)	
5	Transparent plastic	5 8
6	Yellow transparent plastic with adhesive tape	
7	Black gray magnet	
8	White fabric	

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Sample No	Sample description	Test photo group
9	Silver metal	
10	Black body (IC)	A A A A SOSOBIA C
11	Green PCB	
12	Silver solder	
13	Silver metal (USB)	
14	White soft plastic	14
15	White soft plastic (cable sheath)	13
16	White plastic (USB)	
17	Gold metal (pin)	15 17



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Sample No	Sample description	Test photo group
18	Black soft plastic (wire sheath)	
19	Green soft plastic (wire sheath)	
20	White soft plastic (wire sheath)	21 20
21	Red soft plastic (wire sheath)	18 19
22	Silver metal (Type-C)	
23	Black plastic (Type-C)	
24	Copper colored metal wire	
25	Black foam with adhesive tape	



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1.Test results:

XRF Scanning - RoHS Directive 2011/65 / EU

Methods: IEC 62321-3-1:2013 analysis by X-ray fluorescence spectrometry (XRF).

No.	Results of XRF				Chemical confirmation	Conclusion	
110.	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
1	BL	BL	BL	BL	BL		Pass
2	BL	BL	BL	BL	BL		Pass
3	BL	BL	BL	BL			Pass
4	BL	BL	BL	BL			Pass
5	BL	BL	BL	BL	BL		Pass
6	BL	BL	BL	BL			Pass
7	BL	BL	BL	BL	BL		Pass
8	BL	BL	BL	BL	BL		Pass
9	BL	BL	BL	BL			Pass
10	BL	BL	BL	BL	BL		Pass
11	BL	BL	BL	BL	x	PBBs:N.D. PBDEs:N.D	Pass
12	BL	BL	BL	BL			Pass
13	BL	BL	BL	BL			Pass
14	BL	BL	BL	BL	BL		Pass
15	BL	BL	BL	BL	BL		Pass
16	BL	BL	BL	BL	BL		Pass
17	BL	BL	BL	BL			Pass
18	BL	BL	BL	BL	BL		Pass
19	BL	BL	BL	BL	BL		Pass
20	BL	BL	BL	BL	BL		Pass

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No.	No	Results of XRF				Chemical confirmation	Conclusion	
	Pb	Cd	Hg	Cr	Br	results (mg/kg)		
21	BL	BL	BL	BL	BL		Pass	
22	BL	BL	BL	BL			Pass	
23	BL	BL	BL	BL	BL		Pass	
24	BL	BL	BL	BL			Pass	
25	BL	BL	BL	BL	BL		Pass	

Remark:

- a. It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).
- b. The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition.
- c. Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-VIS for Cr(VI) and GC-MS (for PBBs/PBDEs) is recommended to be performed if the concentration exceeds the below warming value according to IEC 62321-3-1:2013.

XRF Screening limits for different matrices :

Madadala	Concentration (mg/kg)							
Materials	Cd	Cr	Pb	Hg	Br			
Polymeric	BL≤60 <x<140≤ol< td=""><td>BL≤640<x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<></td></x<></td></x<140≤ol<>	BL≤640 <x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<></td></x<>	BL≤670 <x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<>	BL≤660 <x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<>	BL≤290 <x< td=""></x<>			
Metallic	BL≤60 <x<140≤ol< td=""><td>BL≤640<x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<></td></x<></td></x<140≤ol<>	BL≤640 <x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<></td></x<>	BL≤670 <x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<>	BL≤660 <x<1340≤ol< td=""><td></td></x<1340≤ol<>				
Composite materials	BL≤40 <x<160≤ol< td=""><td>BL≤440<x< td=""><td>BL≤470<x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<></td></x<></td></x<160≤ol<>	BL≤440 <x< td=""><td>BL≤470<x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<></td></x<>	BL≤470 <x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<>	BL≤460 <x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<>	BL≤240 <x< td=""></x<>			



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Note: -BL= Below Limit

-OL=Over Limit

-X = inconclusive, the region where need further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs).

- --- = Not Applicable
- mg/kg=milligrams per kilogram
- N.D.=Not Detected(<MDL)
- MDL= Method Detection Limit
- Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.
- *=According to 2011/65/EU Annex,point *Lead as an alloying element is steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy, containing up to 4% lead by weight can be exempted.



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2.Pb, Cd, Cr(VI), Hg, PBBs&PBDEs

Test Method:

A.Disassembly, disjointment and mechanical sample preparation

—Ref. to IEC 62321-2:2021, Disassembly, disjointment and mechanical sample preparation.

B.With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report.

(1)Screening - Lead, mercury, cadmium, total chromium and total bromine

—Ref. to IEC 62321-3-1:2013, Screening for Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry.

(2)Wet chemical test method

Test Item(s)	Test Method	Test Equipment	Unit	MDL	Limit
Pb	IEC62321-5:2013	ICP-OES	mg/kg	10	1000
Cd	IEC62321-5:2013	ICP-OES	mg/kg	10	100
Hg	IEC 62321-4:2013/AMD1:2017	ICP-OES	mg/kg	10	1000
Cr(VI) (Metal)	IEC62321-7-1:2015	UV-Vis	µg/cm²	0.10	0.13
Cr(VI) (Nonmetal)	Cr(VI) (Nonmetal) IEC62321-7-2:2017		mg/kg	10	1000
PBBs IEC62321-6:2015		GC-MS	mg/kg	10	1000
PBDEs IEC62321-6:2015		GC-MS	mg/kg	10	1000

РВ	Bs	PBDEs		
Monobromobiphenyl	Hexabromobiphenyl	Monobromodiphenyl ether	Hexabromodiphenyl ether	
Dibromobiphenyl	Heptabromobiphenyl	Dibromodiphenyl ether	Heptabromodiphenyl ether	
Tribromobiphenyl	Octabromobiphenyl	Tribromodiphenyl ether	Octabromodiphenyl ether	
Tetrabromobiphenyl	Nonabromobiphenyl	Tetrabromodiphenyl ether	Nonabromodiphenyl ether	
Pentabromobiphenyl Decabromobiphenyl		Pentabromodiphenyl ether	Decabromodiphenyl ether	

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3. Phthalates—DBP, BBP, DEHP & DIBP

Test Item(s)	Test Method	Test Equipment	Unit	MDL	Limit
Dibutyl Phthalate(DBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Benzylbutyl Phthalate (BBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Di-(2-ethylhexyl)Phthalate (DEHP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Diisobutyl phthalate(DIBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000

Test result(s):

Dort No.		Conclusion			
Part No.	DBP	BBP	DEHP	DIBP	Conclusion
16	N.D.	N.D.	N.D.	N.D.	Pass
18+19+20	N.D.	N.D.	N.D.	N.D.	Pass
21	N.D.	N.D.	N.D.	N.D.	Pass
23	N.D.	N.D.	N.D.	N.D.	Pass
25	N.D.	N.D.	N.D.	N.D.	Pass

Note: - mg/kg=milligrams per kilogram

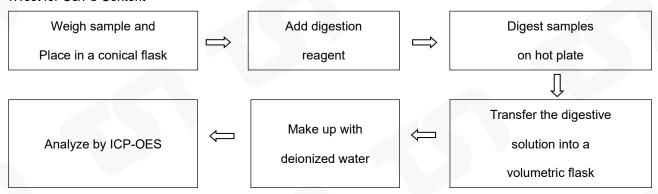
-N.D.=Not Detected(<MDL)



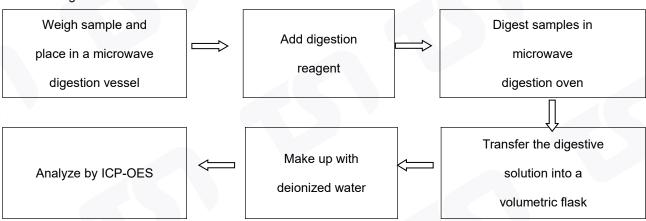
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Chemical Test Process:

1.Test for Cd/Pb Content



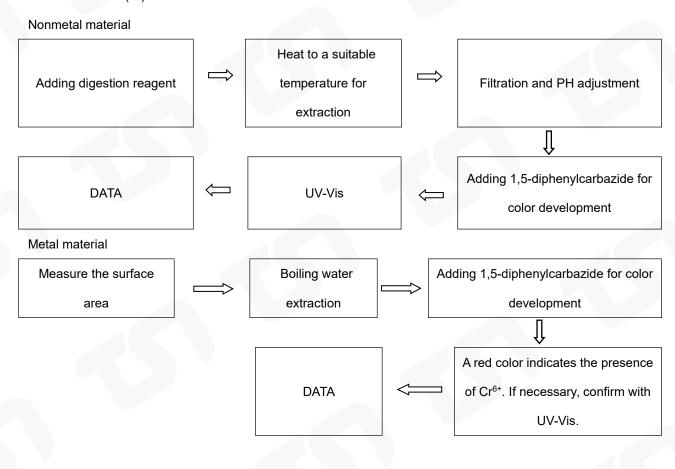
2. Test for Hg Content



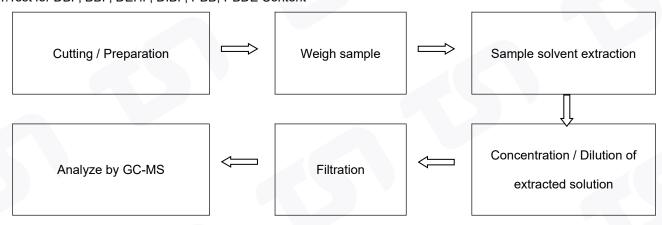


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3. Test for Chromium (VI) Content



4. Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content



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Sample pictures:



*** End of Report ***