

# **Test Report**

Report No. : AGC05443230937-001S1

**SAMPLE NAME** : Aluminium pen w/ cork grip, Aluminium pen w/ bamboo grip

**MODEL NAME** : MO2158, MO2159

**APPLICANT**: MID OCEAN BRANDS B.V

**STANDARD(S)** : Please refer to the following page(s).

**DATE OF ISSUE** : Oct. 18, 2023

Attestation of Global Compliance (Shenzhen) Std & Tech Co., Ltd.





Report No.: AGC05443230937-001S1 MID OCEAN BRANDS B.V

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

6/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community, Hangcheng Street,

Bao'an District, Shenzhen, Guangdong, China

Report on the submitted sample(s) said to be:

Sample Name Aluminium pen w/ cork grip, Aluminium pen w/ bamboo grip

Model MO2158, MO2159

Vendor code 110658 Country of Origin **CHINA** Country of Destination **EUROPE** Sample Received Date Sep. 26, 2023

**Testing Period** Sep. 26, 2023 to Oct. 18, 2023

Test Requested Selected test(s) as requested by client.

**Test Requested:** Conclusion

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 63

- Lead(Pb) Content

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 23

-Cadmium(Cd) Content

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 51&52

- Phthalates Content

Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 50

- Polycyclic-aromatic Hydrocarbons (PAHs) Content

Regulation (EU) 2019/1021 on persistent organic pollutants (POPs)

- Pentachlorophenol (PCP) Content

- Formaldehyde Release

Approved by : Jossie lians

Liangdan, Jessie.Liang

Technical Director

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**Pass** 

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## Report Revise Record

Report Version	Issued Date	Valid Version	Notes
/	Oct. 09, 2023	Invalid	Initial release
S1	Oct. 18, 2023	Valid	Add testing items



The photo of the sample



The photo of AGC05443230937-001S1 is for use only with the original report.

## **Test Point Description**

Test point	Test point description
1-1	Silver coating+blue coating+black coating
1-2	White coating+silver coating (pen tip)
1-3	Plastic pen tip+plastic pen tail
1-4	Black plastic pen tail sleeve+black plastic pen tube+transparent plastic pen core tube
1-5	Cork pen holder
1-6	Wooden pen holder
1-7	Blue ink
1-8	Metal pen holder
1-9	Metal pen clip
1-10	Metal spring



Note: N.D.=Not Detected (less than method detection limit), MDL = Method Detection Limit, 1mg/kg=0.0001%

## Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 63

#### - Lead(Pb) Content

Test Methods and Equipment: IEC 62321-5:2013; ICP-OES

Test Item(s)	Unit Li	Limit	MDL	Test Result(s)			
		Lilliit		1-1	1-2	1-3	
Lead(Pb)	mg/kg	500	10	N.D.	N.D.	N.D.	
Con	Conformity	Conformity	Conformity				

Test Item(s)	Unit	Limit	MDL	Test Result(s)			
	Ollit	Unit Limit		1-4	1-5	1-6	
Lead(Pb)	mg/kg	500	10	17	N.D.	N.D.	
Conclusion				Conformity	Conformity	Conformity	

Test Item(s)	Unit Limit	MDL	Test Result(s)			
		LIIIII	MDL	1-7	1-8	1-9
Lead(Pb)	mg/kg	500	10	N.D.	18	N.D.
Conclusion				Conformity	Conformity	Conformity

Tost Itom(s)	Unit	Limit	MDL	Test Result(s)
Test Item(s)	Unit	Lillit	MDL	1-10
Lead(Pb)	mg/kg	500	10	N.D.
Со	Conformity			

#### Remark:

## Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 23

## -Cadmium(Cd) Content

Test Methods and Equipment: IEC 62321-5:2013; ICP-OES

Test Item(s)	Unit	Limit	MDI	Test Result(s)		
	Unit		MDL	1-1	1-2	
Cadmium(Cd)	mg/kg	100	10	N.D.	N.D.	
C	Conformity	Conformity				

Test Item(s)	Unit	Limit	MDL	Test Result(s)		
				1-3	1-4	
Cadmium(Cd)	mg/kg	100	10	N.D.	13	
Co	Conformity	Conformity				

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1,1-2,1-3,1-4

<sup>1.</sup> As specified by client, the submitted samples were mixed to test, the test points: 1-1,1-2,1-3,1-4



## Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 51&52

## - Phthalates Content

Test Methods and Equipment: IEC 62321-8:2017; GC-MS

Test Items(s)	Unit Limit		MDI	Test Result(s)	
Test Item(s)	Unit	Limit	MDL	1-1	1-2
Diisobutyl phthalate (DIBP) CAS:84-69-5	%	0.1	0.005	N.D.	N.D.
Dibutyl phthalate (DBP) CAS:84-74-2	%	0.1	0.005	N.D.	N.D.
Butylbenzyl phthalate (BBP) CAS:85-68-7	%	0.1	0.005	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate (DEHP) CAS:117-81-7	%	0.1	0.005	N.D.	N.D.
Di-n-octyl phthalate (DNOP) CAS:117-84-0	%	/	0.005	N.D.	N.D.
Di-isononyl phthalate (DINP) CAS:28553-12-0, 68515-48-0	%	/	0.005	N.D.	N.D.
Di-isodecyl phthalate(DIDP) CAS:26761-40-0, 68515-49-1	%	/	0.005	N.D.	N.D.
Sum of DIBP +DBP+BBP+DEHP	%	0.1	/	N.D.	N.D.
Sum of DNOP+DINP+DIDP	%	0.1	/	N.D.	N.D.
Con	nclusion			Conformity	Conformity

Test Items(s)	Unit Limit		MDI	Test Result(s)	
Test Item(s)	Unit	Limit	MDL	1-3	1-4
Diisobutyl phthalate (DIBP) CAS:84-69-5	%	0.1	0.005	N.D.	N.D.
Dibutyl phthalate (DBP) CAS:84-74-2	%	0.1	0.005	N.D.	N.D.
Butylbenzyl phthalate (BBP) CAS:85-68-7	%	0.1	0.005	N.D.	N.D.
Di-(2-ethylhexyl) Phthalate (DEHP) CAS:117-81-7	%	0.1	0.005	N.D.	N.D.
Di-n-octyl phthalate (DNOP) CAS:117-84-0	%	/	0.005	N.D.	N.D.
Di-isononyl phthalate (DINP) CAS:28553-12-0, 68515-48-0	%	/	0.005	N.D.	N.D.
Di-isodecyl phthalate(DIDP) CAS:26761-40-0, 68515-49-1	%	/	0.005	N.D.	N.D.
Sum of DIBP +DBP+BBP+DEHP	%	0.1	/	N.D.	N.D.
Sum of DNOP+DINP+DIDP	%	0.1	/	N.D.	N.D.
Con	Conclusion				

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1,1-2,1-3,1-4

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Report No.: AGC05443230937-001S1



## Limit requirements of Phthalates

Toys and childcare articles	Each of DEHP, DBP, BBP, DIBP is less than 0.1% or the sum of DEHP+DBP+BBP+DIBP is less than 0.1%
Toys and childcare articles which can be placed in the mouth by children	The sum of DINP+DIDP+DNOP is less than 0.1%

## Annex XVII of the REACH Regulation (EC) No 1907/2006, entry 50

## - Polycyclic-aromatic Hydrocarbons (PAHs) Content

Test Methods and Equipment: Afps GS 2019:01 PAK; GC-MS

Test Item(s)	Unit	Limit	MDL	Test Result(s)	
	Onit	Lillit	MIDL	1-1	1-2
Benzo[a]pyrene(BaP)	mg/kg	1	0.1	N.D.	N.D.
Benzo[e]pyrene(BeP)	mg/kg	1	0.1	N.D.	N.D.
Benzo[a]anthracene(BaA)	mg/kg	1	0.1	N.D.	N.D.
Benzo[b]fluoranthene(BbF)	mg/kg	1	0.1	N.D.	N.D.
Benzo[j]fluoranthene(BjFA)	mg/kg	1	0.1	N.D.	N.D.
Benzo[k]fluoranthene(BkF)	mg/kg	1	0.1	N.D.	N.D.
Chrysene(CHR)	mg/kg	1	0.1	N.D.	N.D.
Dibenzo[a,h]anthracene(DBA)	mg/kg	1	0.1	N.D.	N.D.
Co	nclusion			Conformity	Conformity

Tost Itam(a)	Unit	Limit	MDL	Test Result(s)		
Test Item(s)	Test nem(s) Onit Limit Mi	MDL	1-3	1-4		
Benzo[a]pyrene(BaP)	mg/kg	1	0.1	N.D.	N.D.	
Benzo[e]pyrene(BeP)	mg/kg	1	0.1	N.D.	N.D.	
Benzo[a]anthracene(BaA)	mg/kg	1	0.1	N.D.	N.D.	
Benzo[b]fluoranthene(BbF)	mg/kg	1	0.1	N.D.	N.D.	
Benzo[j]fluoranthene(BjFA)	mg/kg	1	0.1	N.D.	N.D.	
Benzo[k]fluoranthene(BkF)	mg/kg	1	0.1	N.D.	N.D.	
Chrysene(CHR)	mg/kg	1	0.1	N.D.	N.D.	
Dibenzo[a,h]anthracene(DBA)	mg/kg	1	0.1	N.D.	N.D.	
Co.	Conformity	Conformity				

#### Remark:

1. As specified by client, the submitted samples were mixed to test, the test points: 1-1,1-2,1-3,1-4



## Limit requirements of Polycyclic-aromatic Hydrocarbons (PAHs) (Unit: mg/kg)

Items	CAS No.	Extender oils or used for the production of tyres or parts of tyres	Any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity	Toys, including activity toys, and childcare articles, any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity			
Benzo[a]pyrene(BaP)	50-32-8	≤ 1	≤ 1	≤ 0.5			
Benzo[e]pyrene(BeP)	192-97-2	/	≤ 1	≤ 0.5			
Benzo[a]anthracene(BaA)	56-55-3	/	≤ 1	≤ 0.5			
Benzo[b]fluoranthene(BbF)	205-99-2	/	≤ 1	≤ 0.5			
Benzo[j]fluoranthene(BjFA)	205-82-3	/	≤ 1	≤ 0.5			
Benzo[k]fluoranthene(BkF)	207-08-9	/	≤ 1	≤ 0.5			
Chrysene(CHR)	218-01-9	/	≤ 1	≤ 0.5			
Dibenzo[a,h]anthracene(DBA)	53-70-3	/	≤ 1	≤ 0.5			
Sum of BaP+ BeP+ BaA+ BbF+ BjFA+ BkF+ CHR+ DBA	/	≤ 10	/	/			

## Regulation (EU) 2019/1021 on persistent organic pollutants (POPs)

## - Pentachlorophenol (PCP) Content

Test Methods and Equipment: EPA 3550C:2007 & EPA 8270E:2018; GC-MS

Test Item(s)	Unit	Limit	MDL	Test Result(s)
				1-5
Pentachlorophenol (PCP)	mg/kg	5	5	N.D.
Co	Conformity			

Tost Itom(s)	Unit	Limit	MDL	Test Result(s)
Test Item(s)				1-6
Pentachlorophenol (PCP)	mg/kg	5	5	N.D.
Со	Conformity			

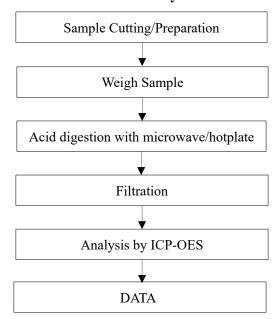


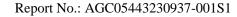
Test Methods and Equipment: EN 717-3:1996; UV-Vis

Tost Itom(s)	Unit	Client's	MDL	Test Result(s)
Test Item(s)		Limit		1-5
Formaldehyde Release	mg/kg	80	1	N.D.
Conclusion	Conformity			

Test Item(s)	Unit	Client's	MDL	Test Result(s)
		limit		1-6
Formaldehyde Release	mg/kg	80	1	2
Со	Conformity			

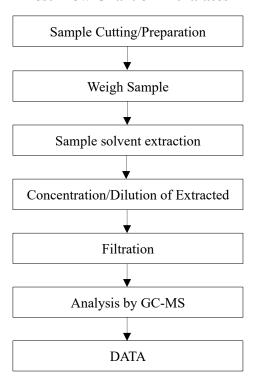
## **Test Flow Chart of Heavy Metal Content**



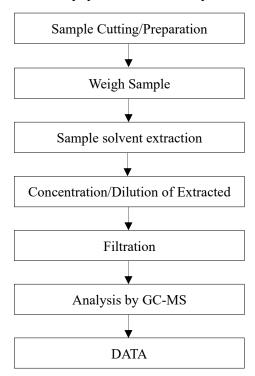


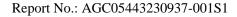


#### **Test Flow Chart of Phthalates**



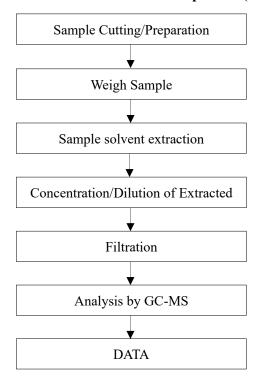
## Test Flow Chart of Polycyclic-aromatic Hydrocarbons (PAHs)

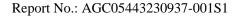






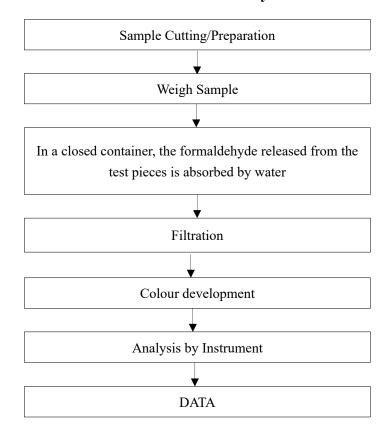
# **Test Flow Chart of Pentachlorophenol (PCP)**







# **Test Flow Chart of Formaldehyde Release**





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\*\*\* End of Report \*\*\*