TEST REPORT

Reference No.	:	WTF21F11129034A1C
Applicant	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	116737
Sample Name	:	A4 portfolio in RPET
Model No.	:	MO6487
Test Requested	:	1) Determination of Lead content in the submitted sample in accordance with REACH regulation Annex XVII Entries 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628 2) Determination of Cadmium content in the submitted sample in accordance with REACH regulation Annex XVII Entries 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011, No. 835/2012 and (EU) 2016/217 3) Determination of specified Phthalates content according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & No. 2018/2005 4) Determine the specified AZO Colorants contents in the submitted sample in according to the Entries 43 in Annex XVII of the REACH Regulation (EC) No.1907/2006 and the Amendment Regulation (EC) No.552/ 2009 & No.126/ 2013 (previously restricted under Directive 2002/61/EC). 5) As requested by the applicant, to test Colour Fastness to Rubbing in the submitted sample.
Test Method	:	Please refer to next page (s)
Test Conclusion	:	Please refer to next page (s)
Date of Receipt sample	:	2021-11-24 & 2021-12-14
Date of Test	:	2021-11-24 to 2021-12-21
Date of Issue	:	2021-12-23
Test Result	:	Please refer to next page (s)
Note	:	As specified by client, only test the designated sample.

Remarks:

Prepared By:
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Compiled by: Approved by:

Rena.Chen / Project Engineer

Swing.Liang / Technical Manager

Test Result:

1) Lead (Pb)

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.1+No.2	No.3	No.4	
Lead(Pb)	2	ND*	ND	ND	500
Conclusion	--	**Pass**	**Pass**	**Pass**	--

Note:

(1) mg/kg = milligram per kilogram
(2) ND = Not Detected (lower than LOQ)
(3) LOQ = Limit of quantitation
(4) Limit of Lead was quoted from REACH regulation Annex XVII Item 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628.
(5) "*" = Results are calculated by the minimum weight of mixed components.
(6) The test sample of specimen No.3 and No.4 are received on the date of 2021-11-24.

2) Cadmium (Cd)

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)
		No.3
Cadmium(Cd)	2	ND
Conclusion	--	**Pass**

Note:

(1) mg/kg = milligram per kilogram
(2) ND = Not Detected (lower than LOQ)
(3) LOQ = Limit of quantitation
(4) Limit of Cadmium according to REACH regulation Annex XVII Item 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011 and No. 835/2012 and (EU) 2016/217.

Category	Limit (mg/kg)
Wet paint	100
Surface coating	1000
Plastic	100
Metal parts of jewellery and hair accessories	100

(5) The test sample of specimen No.3 is received on the date of 2021-11-24.

3) Phthalates

Test Method: With reference to EN14372:2004, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Test Items	LOQ (%)	Results (%)	Limit (%)
		No.3	
Benzyl butyl phthalate (BBP)	0.005	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND	
Dibutyl phthalate (DBP)	0.005	ND	
Diisobutyl phthalate (DIBP)	0.005	ND	
Diisodecyl phthalate (DIDP)	0.01	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND	
Conclusion	--	**Pass**	--

Note:

DBP= Dibutyl phthalate BBP= Benzyl butyl phthalate DEHP= Bis-(2-ethylhexyl)- phthalate
DINP= Di-isononyl phthalate DNOP= Di-n-octyl phthalate DIDP= Di-isodecyl phthalate
DIBP= Diisobutyl phthalate

(1) % = percentage by weight
(2) ND = Not Detected or lower than limit of quantitation
(3) LOQ = Limit of quantitation
(4) “<” = less than
(5) The above limit was quoted according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & No. 2018/2005 (formerly known as Directive 2005/84/EC) for phthalate content in toys and child care articles.
(6) The test sample of specimen No.3 is received on the date of 2021-11-24.

4) AZO

Test Method: With reference to BS EN ISO 14362-1：2017 and BS EN ISO 14362-3：2017, analysis was performed by Gas Chromatographic Mass Spectrometry (GC-MS)

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)
				No.1+No.2
1	4-Aminobiphenyl	92-67-1	30	ND*
2	Benzidine	92-87-5	30	ND*
3	4-chloro-o-Toluidine	95-69-2	30	ND*
4	2-Naphthylamine	91-59-8	30	ND*
5	o-Aminoazotoluene	97-56-3	30	ND*
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*
7	p-Chloroaniline	106-47-8	30	ND*
8	2,4-diaminoanisol	615-05-4	30	ND*
9	4,4’-Diaminodiphenylmethane	101-77-9	30	ND*
10	3,3’-Dichlorobenzidine	91-94-1	30	ND*
11	3,3’-Dimethoxybenzidine	119-90-4	30	ND*
12	3,3’-Dimethylbenzidine	119-93-7	30	ND*
13	3,3’-Dimethyl-4,4’-diaminodiphenylmethane	838-88-0	30	ND*
14	p-cresinin	120-71-8	30	ND*
15	4,4’-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*
16	4,4’-Oxydianiline	101-80-4	30	ND*
17	4,4’-Thiodianiline	139-65-1	30	ND*
18	o-Toluidine	95-53-4	30	ND*
19	2,4-Toluylendiamine	95-80-7	30	ND*
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*
21	o-anisidine	90-04-0	30	ND*
22	4-aminoazobenzene	60-09-3	30	ND*
23	2,4-Xylidin	95-68-1	30	ND*
24	2,6-Xylidin	87-62-7	30	ND*
Conclusion		--	--	**Pass**

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)	
				No.3	No.4
1	4-Aminobiphenyl	92-67-1	30	ND	ND
2	Benzidine	92-87-5	30	ND	ND
3	4-chloro-o-Toluidine	95-69-2	30	ND	ND
4	2-Naphthylamine	91-59-8	30	ND	ND
5	o-Aminoazotoluene	97-56-3	30	ND	ND
6	2-Amino-4-nitrotoluene	99-55-8	30	ND	ND
7	p-Chloroaniline	106-47-8	30	ND	ND
8	2,4-diaminoanisol	615-05-4	30	ND	ND
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND	ND
10	3,3'-Dichlorobenzidine	91-94-1	30	ND	ND
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND	ND
12	3,3'-Dimethylbenzidine	119-93-7	30	ND	ND
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND	ND
14	p-cresinin	120-71-8	30	ND	ND
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND	ND
16	4,4'-Oxydianiline	101-80-4	30	ND	ND
17	4,4'-Thiodianiline	139-65-1	30	ND	ND
18	o-Toluidine	95-53-4	30	ND	ND
19	2,4-Toluylendiamine	95-80-7	30	ND	ND
20	2,4,5 – Trimethylaniline	137-17-7	30	ND	ND
21	o-anisidine	90-04-0	30	ND	ND
22	4-aminoazobenzene	60-09-3	30	ND	ND
23	2,4-Xylidin	95-68-1	30	ND	ND
24	2,6-Xylidin	87-62-7	30	ND	ND
Conclusion		--	--	**Pass**	**Pass**

Note:

- ND = Not Detected or lower than limit of quantitation
- mg/kg=Milligram per kilogram
- Limit of quantitation (mg/kg): Each 5mg/kg
- The CAS-numbers 97-56-3 and 99-55-8 are further reduced to CAS-numbers 95-53-4 and 95-80-7.
- AZO colorants that are able to form 4-aminoazobenzene, generate under the condition of this method aniline and 1,4-phenylenediamine. The presence of these colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorant used.
- The CAS-numbers 95-68-1 and 87-62-7 are not proscribed under REACH Regulation (EC) No 1907/2006
- "*" = Results are calculated by the minimum weight of mixed components.
- The test sample of specimen No.3 and No.4 are received on the date of 2021-11-24.

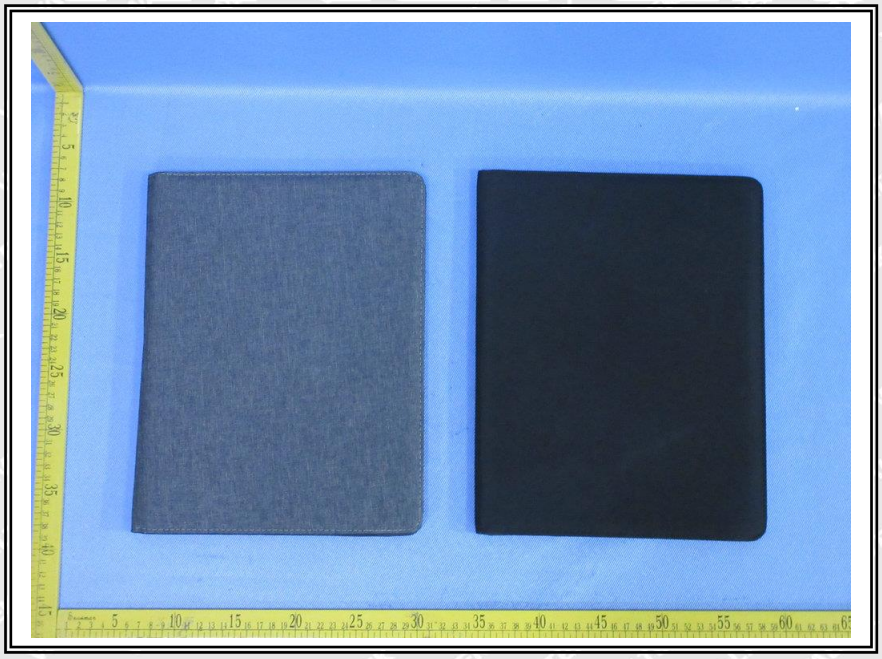
5) Colour Fastness to Rubbing

Colour Fastness to Rubbing						
(ISO 105-X12: 2016; Size of rubbing finger: 16mm diameter.)						
		No.1	**No.2**	**No.3**	**No.4**	**Client's Limit**
Length	Dry staining	4-5	4-5	4-5	4-5	2-3
	Wet staining	4-5	4	4-5	4-5	2-3
Width	Dry staining	4-5	4-5	4-5	4-5	2-3
	Wet staining	4-5	4	4-5	4-5	2-3
Conclusion		**Pass**	**Pass**	**Pass**	**Pass**	--

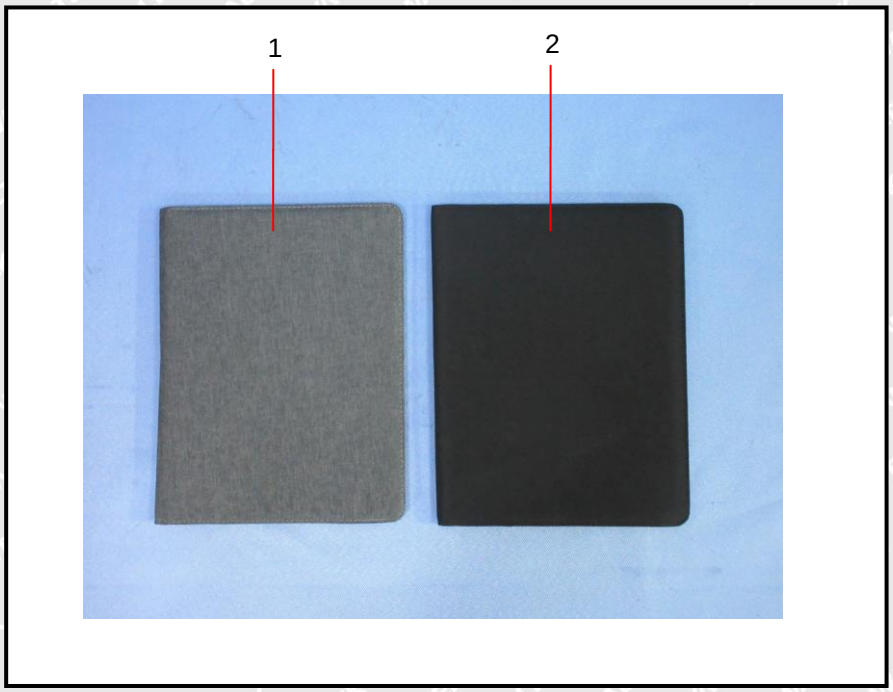
Note:
(1) Grey Scale Rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.
(2) The test sample of specimen No.3 and No.4 are received on the date of 2021-12-14.

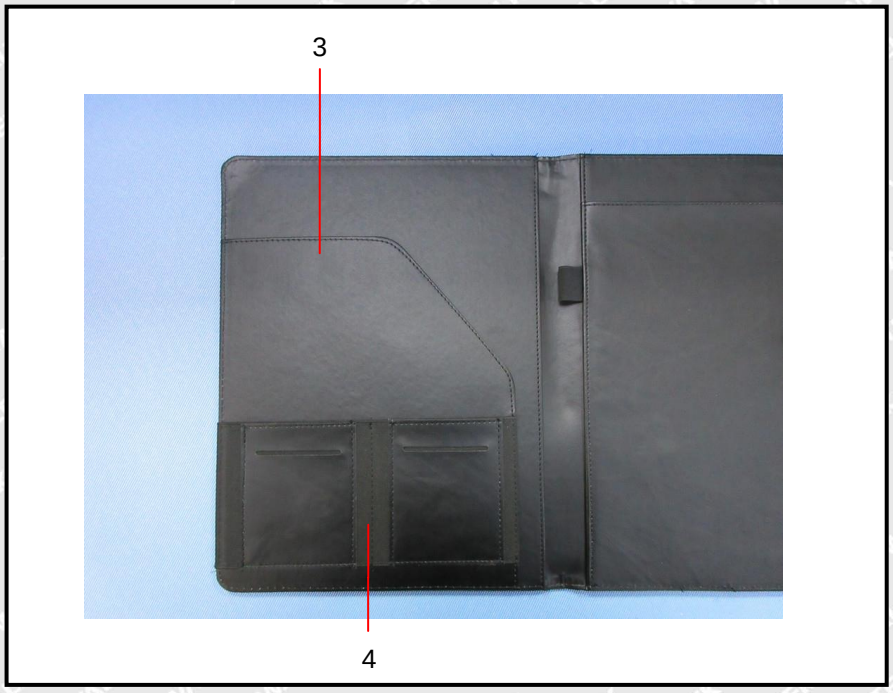
Test Specimen Description:
No.1: Black-grey main fabric
No.2: Black main fabric
No.3: Black synthetic leather
No.4: Black elastic band

Sample photo:



Photograph of parts tested:





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