



TEST REPORT

Reference No. : WTF19F09063285C
 Applicant : Mid Ocean Brands B.V.
 Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon,
 Hong Kong
 Manufacturer : 114103
 Sample Name : Lanyard with badge reel and safety break
 Model No. : MO9852
 Test Method : Please refer to next page (s)
 Test Conclusion : Please refer to next page (s)
 Date of Receipt sample : 2019-09-10
 Date of Test : 2019-09-10 to 2019-09-17
 Date of Issue : 2019-09-17
 Test Result : Please refer to next page (s)

Remarks:

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- Test Requested**..... :
- 1) 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
 - 2) 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
 - 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.



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**Test Result:****1) Cadmium (Cd)**

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

Test Item	MDL (mg/kg)	Results (mg/kg)			
		No.4	No.5	No.6	No.10
Cadmium(Cd)	2	ND	ND	ND	ND
Conclusion	--	Pass	Pass	Pass	Pass

Note:

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than MDL)
- (3) MDL = Method Detection Limit
- (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

2) Lead (Pb)

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

Test Item	MDL (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.1+No.2+No.3	No.4+No.5+No.6	No.7+No.11	
Lead(Pb)	2	ND*	ND*	35*	500
Conclusion	--	Pass	Pass	Pass	--

Test Item	MDL (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.8+No.9	No.10	No.12	
Lead(Pb)	2	ND*	ND	ND	500
Conclusion	--	Pass	Pass	Pass	--

Note:

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than MDL)
- (3) MDL = Method Detection Limit
- (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.



3) Phthalates

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

Test Items	MDL (%)	Results (%)	Limit (%)
		No.10	
Benzyl butyl phthalate (BBP)	0.005	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	0.008	
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	0.030	
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 Less than the method detection limit

(3) MDL=Method Detection Limit

(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.



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.3	
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 less than the method detection limit
- mg/kg=Milligram per kilogram
- Method Detection Limit (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



5) Colour Fastness to Rubbing

Colour Fastness to Rubbing			
(ISO 105 X12: 2001/Cor 2002; Size of rubbing finger: 16mm diameter.)			
	No.1	No.3	Client's Limit
Dry staining	4-5	4-5	2-3
Wet staining	4-5	4-5	2-3
Conclusion	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.

Test Specimen Description:

- No.1: Blue fabric belt
- No.2: White fabric belt
- No.3: Black fabric belt
- No.4: Blue plastic shell
- No.5: White plastic shell
- No.6: Black plastic shell
- No.7: Silvery metal ring
- No.8: Silvery metal buckle
- No.9: Silvery metal eyelet
- No.10: Transparent plastic sheet
- No.11: Silvery metal nut
- No.12: Black elastic band

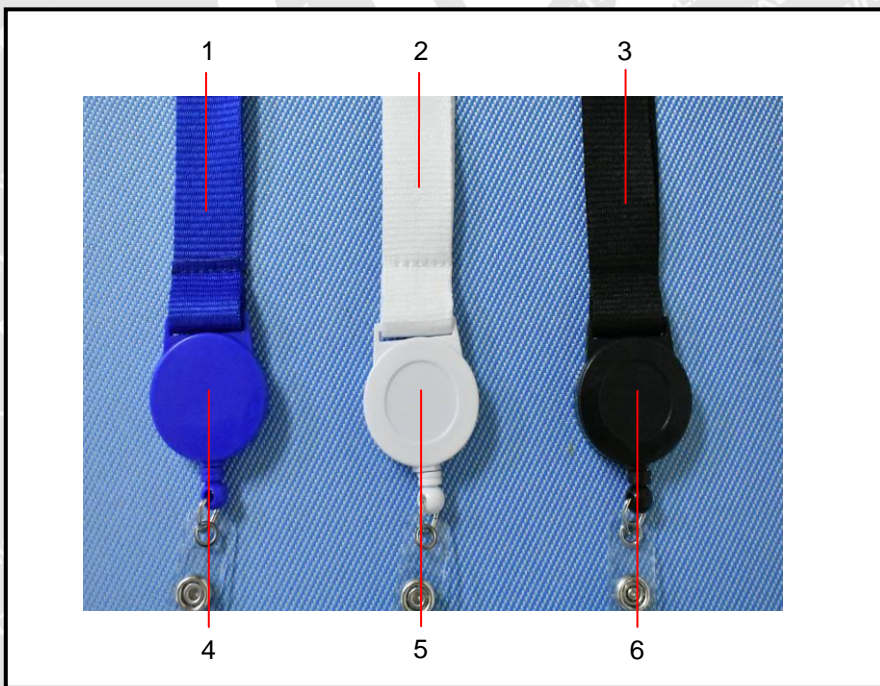
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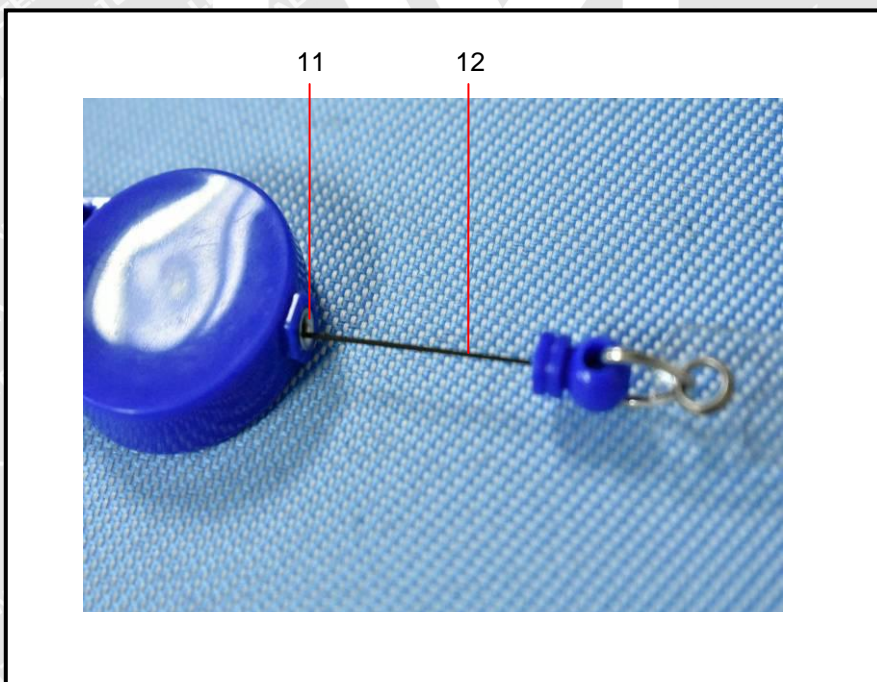
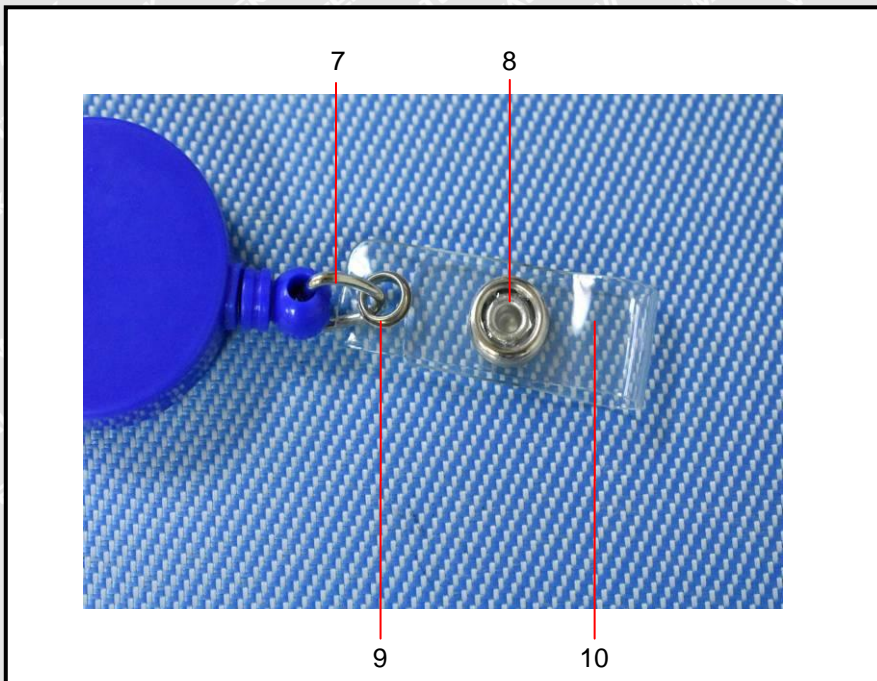


Sample photo:



Photographs of parts tested:





===== End of Report =====