# TEST REPORT

| | | |
|---|---|---|
| **Reference No.** | : | WTF19F11078596C |
| **Applicant** | : | Mid Ocean Brands B.V. |
| **Address** | : | 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong |
| **Manufacturer** | : | 111652 |
| **Sample Name** | : | Backpack with padded shoulder strap |
| **Model No.** | : | MO9294 |
| **Test Method** | : | Please refer to next page (s) |
| **Test Conclusion** | : | Please refer to next page (s) |
| **Date of Receipt sample** | : | 2019-11-13 |
| **Date of Test** | : | 2019-11-13 to 2019-11-19 |
| **Date of Issue** | : | 2019-11-19 |
| **Test Result** | : | Please refer to next page (s) |
| **Note** | : | 1) As per client's requirement, the results of specimen No.1 were quoted from Report No.WTF19F11077705C specimen No.1.<br>2) As per client's requirement, the results of specimen No.3 were quoted from Report No.WTF19F11077705C specimen No.2.<br>3) As per client's requirement, the results of specimen No.4 were quoted from Report No.WTF19F11077705C specimen No.3. |

Remarks:
The results shown in this test report refer only to the sample(s) tested; this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.
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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.

**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.3 | No.4 | No.5 | No.8 |
| 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 | |
| Lead(Pb) | 2 | ND | ND | ND | ND | 500 |
| **Conclusion** | -- | **Pass** | **Pass** | **Pass** | **Pass** | -- |

| Test Item | MDL (mg/kg) | Results (mg/kg) | | | | Limit (mg/kg) |
|---|---|---|---|---|---|---|
| | | No.5 | No.6 | No.7 | No.8 | |
| Lead(Pb) | 2 | ND | ND | ND | ND | 500 |
| **Conclusion** | -- | **Pass** | **Pass** | **Pass** | **Pass** | -- |

| Test Item | MDL (mg/kg) | Results (mg/kg) | | | Limit (mg/kg) |
|---|---|---|---|---|---|
| | | No.9 | No.10 | No.11 | |
| 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.

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

| Test Items | MDL (%) | Results (%) | | Limit (%) |
|---|---|---|---|---|
| | | No.5 | No.8 | |
| Benzyl butyl phthalate (BBP) | 0.005 | ND | ND | sum of four phthalates < 0.1 |
| Di (2-ethyl hexyl)- phthalate (DEHP) | 0.005 | ND | ND | |
| Dibutyl phthalate (DBP) | 0.005 | ND | ND | |
| Diisobutyl phthalate (DIBP) | 0.005 | ND | ND | |
| Diisodecyl phthalate (DIDP) | 0.01 | ND | ND | sum of three phthalates < 0.1 |
| Diisononyl phthalate (DINP) | 0.01 | ND | ND | |
| Di-n-octyl phthalate (DNOP) | 0.005 | ND | ND | |
| **Conclusion** | -- | **Pass** | **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.2 | No.6 |
| 1 | 4-Aminobiphenyl | 92-67-1 | 30 | ND | ND | ND |
| 2 | Benzidine | 92-87-5 | 30 | ND | ND | ND |
| 3 | 4-chloro-o-Toluidine | 95-69-2 | 30 | ND | ND | ND |
| 4 | 2-Naphthylamine | 91-59-8 | 30 | ND | ND | ND |
| 5 | o-Aminoazotoluene | 97-56-3 | 30 | ND | ND | ND |
| 6 | 2-Amino-4-nitrotoluene | 99-55-8 | 30 | ND | ND | ND |
| 7 | p-Chloroaniline | 106-47-8 | 30 | ND | ND | ND |
| 8 | 2,4-diaminoanisol | 615-05-4 | 30 | ND | ND | ND |
| 9 | 4,4’-Diaminodiphenylmethane | 101-77-9 | 30 | ND | ND | ND |
| 10 | 3,3’-Dichlorobenzidine | 91-94-1 | 30 | ND | ND | ND |
| 11 | 3,3’-Dimethoxybenzidine | 119-90-4 | 30 | ND | ND | ND |
| 12 | 3,3’-Dimethylbenzidine | 119-93-7 | 30 | ND | ND | ND |
| 13 | 3,3’-Dimethyl-4,4’-diaminodiphenylmethane | 838-88-0 | 30 | ND | ND | ND |
| 14 | p-cresinin | 120-71-8 | 30 | ND | ND | ND |
| 15 | 4,4’-Methylen-bis-(2-chloroaniline) | 101-14-4 | 30 | ND | ND | ND |
| 16 | 4,4’-Oxydianiline | 101-80-4 | 30 | ND | ND | ND |
| 17 | 4,4’-Thiodianiline | 139-65-1 | 30 | ND | ND | ND |
| 18 | o-Toluidine | 95-53-4 | 30 | ND | ND | ND |
| 19 | 2,4-Toluylendiamine | 95-80-7 | 30 | ND | ND | ND |
| 20 | 2,4,5 – Trimethylaniline | 137-17-7 | 30 | ND | ND | ND |
| 21 | o-anisidine | 90-04-0 | 30 | ND | ND | ND |
| 22 | 4-aminoazobenzene | 60-09-3 | 30 | ND | ND | ND |
| 23 | 2,4-Xylidin | 95-68-1 | 30 | ND | ND | ND |
| 24 | 2,6-Xylidin | 87-62-7 | 30 | ND | ND | ND |
| **Conclusion** | | -- | -- | **Pass** | **Pass** | **Pass** |

| No. | Amines Substances | CAS No. | Limit (mg/kg) | Result (mg/kg) | |
|---|---|---|---|---|---|
| | | | | No.7 | No.9 |
| 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**

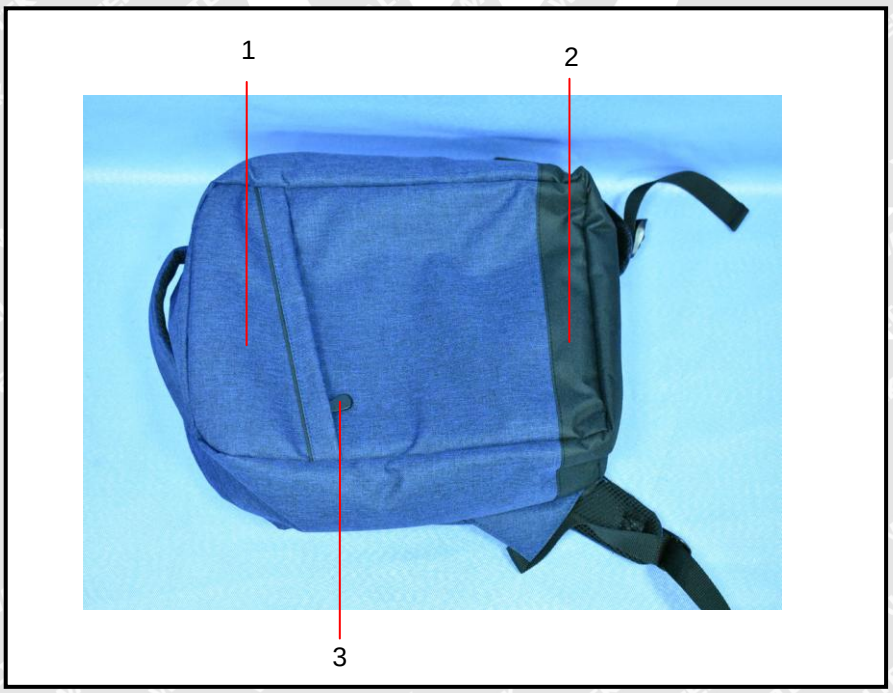
| **Colour Fastness to Rubbing** | | | | | | |
|---|---|---|---|---|---|---|
| (ISO 105 X12: 2001/Cor 2002; Size of rubbing finger: 16mm diameter.) | | | | | | |
| | **No.1** | **No.2** | **No.6** | **No.7** | **No.9** | **Client's Limit** |
| Dry staining | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 2-3 |
| Wet staining | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 2-3 |
| **Conclusion** | **Pass** | **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.

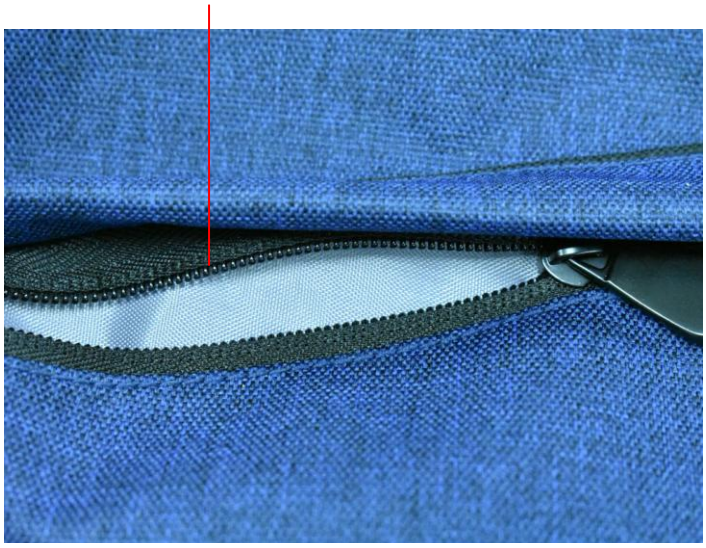
**Test Specimen Description:**
No.1: Navy main fabric
No.2: Black main fabric
No.3: Silvery metal zipper head with black coating
No.4: Black plastic zipper tooth
No.5: Black plastic shell of socket
No.6: Black net fabric
No.7: Black webbing
No.8: Black plastic buckle
No.9: Silvery-grey woven lining
No.10: Black plastic loop of VELCRO
No.11: Black plastic hook of VELCRO

**Sample photo:**

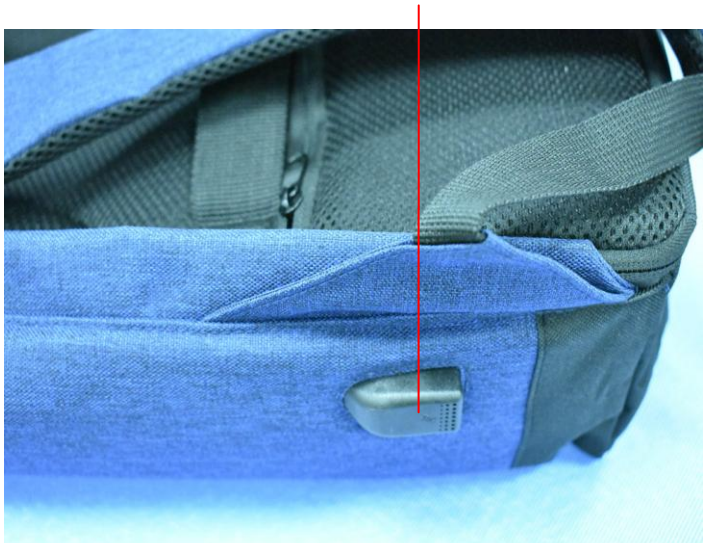
**Photographs of parts tested:**

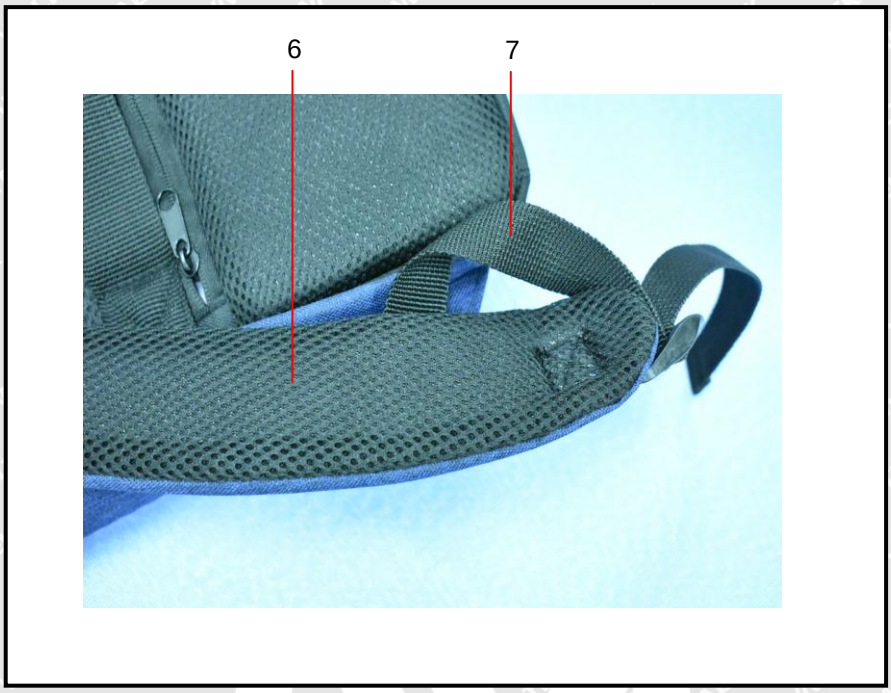


4



5




6
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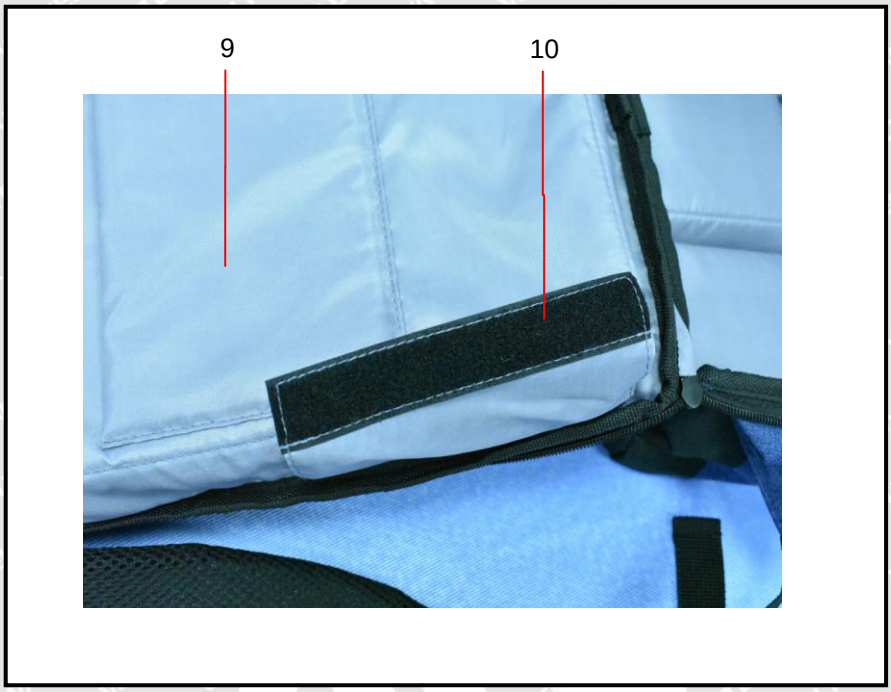


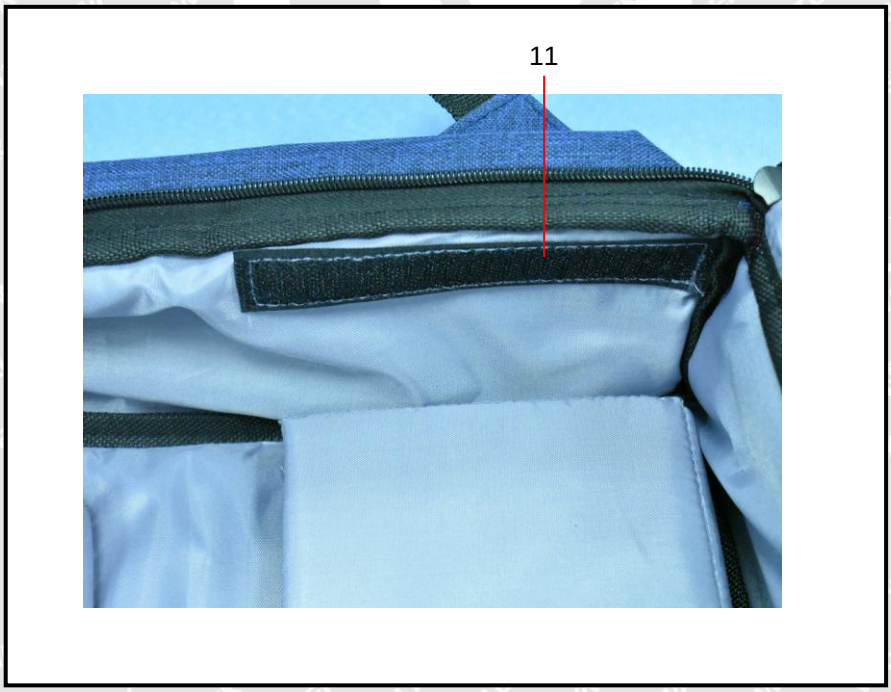


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