中国认可
国际互认
检测
TESTING
CNAS L6478

# TEST REPORT

| | | |
|---|---|---|
| **Reference No.** | : | WTF21F11121808F |
| **Applicant** | : | Mid Ocean Brands B.V. |
| **Address** | : | 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong |
| **Manufacturer** | : | 114276 |
| **Sample Name** | : | RPET bottle |
| **Model No.** | : | MO6357 |
| **Test Requested** | : | 1. In accordance with Regulation (EU) No 10/2011 with amendments and Regulation (EC) No 1935/2004.<br>2. In accordance with French Décret n°2007-766 with amendments and Regulation (EC) No 1935/2004. |
| **Test Conclusion** | : | **Pass** (Please refer to next pages for details) |
| **Date of Receipt sample** | : | 2021-11-09 |
| **Date of Test** | : | 2021-11-09 to 2021-11-22 |
| **Date of Issue** | : | 2021-11-22 |
| **Test Result** | : | Please refer to next page (s) |
| **Note** | : | Selected test(s) as requested by applicant. |

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.
If the report is not stamped with the accreditation recognized seal, it will only be used for scientific research, education, and internal quality control activities, and is not used for the purpose of issuing supporting data to the society.

**Prepared By:**
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Compiled by: Approved by:

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Dino.Zhang / Technical Manager

**Test Results:**

**1. Overall Migration Test**

| Food Simulant | Test Condition | Result ($mg/dm^2$) | | | LOQ ($mg/dm^2$) | Limit ($mg/dm^2$) |
|---|---|---|---|---|---|---|
| | | 1st Migration | | | | |
| | | No.1 | No.2 | No.3 | | |
| 3% Acetic Acid | 70°C for 2 hours | ND | ND | ND | 3 | -- |
| 10% Ethanol | 70°C for 2 hours | ND | ND | ND | 3 | -- |

| Food Simulant | Test Condition | Result ($mg/dm^2$) | | | LOQ ($mg/dm^2$) | Limit ($mg/dm^2$) |
|---|---|---|---|---|---|---|
| | | 2nd Migration | | | | |
| | | No.1 | No.2 | No.3 | | |
| 3% Acetic Acid | 70°C for 2 hours | ND | ND | ND | 3 | -- |
| 10% Ethanol | 70°C for 2 hours | ND | ND | ND | 3 | -- |

| Food Simulant | Test Condition | Result ($mg/dm^2$) | | | LOQ ($mg/dm^2$) | Limit ($mg/dm^2$) |
|---|---|---|---|---|---|---|
| | | 3rd Migration | | | | |
| | | No.1 | No.2 | No.3 | | |
| 3% Acetic Acid | 70°C for 2 hours | ND | ND | ND | 3 | 10 |
| 10% Ethanol | 70°C for 2 hours | ND | ND | ND | 3 | 10 |

Note:

1. Test method: With reference to BS EN 1186-1: 2002 and BS EN 1186-3: 2002
2. "$mg/dm^2$" = milligram per square decimetre
3. "°C" = Celsius degree
4. LOQ = Limit of quantitation
5. ND = Not Detected or lower than limit of quantitation
6. The specification was quoted from (EU) No 10/2011 and its amendments (EU) 2016/1416, (EU) 2017/752, (EU)2019/37 and (EU) 2020/1245.

| Food Simulant | Test Condition | Result (mg/kg) | LOQ(mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|
| | | No.4 | | |
| 3% Acetic Acid | 70°C for 2 hours | ND | 20 | 60 |
| 10% Ethanol | 70°C for 2 hours | ND | 20 | 60 |

Note:

1. Test method: With reference to EN 1186-1: 2002 and EN 1186-3: 2002
2. “mg/kg” = milligram per kilogram of foodstuff in contact with
3. “°C” = Celsius degree
4. LOQ = Limit of quantitation
5. ND = Not Detected or lower than limit of quantitation
6. The specification was quoted from Council of Europe Resolution AP(2004)5 and French Arrêté du 25 novembre 1992 for Silicone Elastomers.

**2. Peroxide Value Test***

| Test Item | Result | Limit |
|---|---|---|
| | No.4 | |
| Peroxide Value | Absent | Absent |

Note:

1. Test method: With reference to European Pharmacopeia (2005) ANNEX X F, Clause 2.5.5, method A.
2. The specification was quoted from French Arrêté du 25 novembre 1992 for Silicone Elastomers.
4. The testing item marked with ‘*’ does not been accredited by CNAS.

**3. Volatile Organic Compounds**

| Test Item | Result (%) | LOQ (%) | Limit (%) |
|---|---|---|---|
| | No.4 | | |
| Volatile Organic compounds | 0.17 | 0.05 | 0.5 |

Note:

1. Test method: With reference to French Arrêté du 25 novembre 1992 Annex III for silicone Elastomers.
2. “%” = percentage by weight
3. LOQ = Limit of quantitation
4. The specification was quoted from French Arrêté du 25 novembre 1992 for Silicone Elastomers.

**4. Specific Migration of Organotin (as Tin)**

| Test Item | Result (mg/kg) | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|
| | No.4 | | |
| Specific Migration of Organotin (as Tin) | ND | 0.01 | 0.1 |

Note:

1. Test Method: With reference to BS EN 13130-1: 2004, sample preparation in 3% acetic acid at 70°C for 2 hours, analysis was performed by ICP-MS.
2. “mg/kg” = milligram per kilogram
3. LOQ = Limit of quantitation
4. ND = Not Detected, less than LOQ
5. The specification was quoted from French Arrêté du 25 novembre 1992 for Silicone Elastomers.

**5. Bisphenol A Content***

| Test Item | Result (mg/kg) | | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|---|
| | No.1 | No.2 | No.3 | No.4 | | |
| Bisphenol A | ND | ND | ND | ND | 0.1 | Not Detected |

Note:

1. Test Method: With reference to EPA3550C:2007, analysis was performed by GC-MS.
2. “mg/kg” = milligram per kilogram
3. LOQ = Limit of quantitation
4. ND = Not Detected or lower than limit of quantitation
5. The specification was quoted from Law No 2012-1442.
6. The testing item marked with ‘*’ does not been accredited by CNAS.

**6. Specific Migration of heavy metal**

| Test Items | Result(mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|
| | 1st Migration | | | | |
| | No.1 | No.2 | No.3 | | |
| Specific migration of Nickel | ND | ND | ND | 0.01 | -- |
| Specific migration of Aluminium | ND | ND | ND | 0.1 | -- |
| Specific migration of Barium | ND | ND | ND | 0.1 | -- |
| Specific migration of Cobalt | ND | ND | ND | 0.01 | -- |
| Specific migration of Copper | ND | ND | ND | 0.1 | -- |
| Specific migration of Iron | 0.1 | ND | ND | 0.1 | -- |
| Specific migration of Lithium | ND | ND | ND | 0.01 | -- |
| Specific migration of Manganese | ND | ND | ND | 0.01 | -- |
| Specific migration of Zinc | ND | ND | ND | 0.1 | -- |
| Specific migration of Antimony* | ND | ND | ND | 0.01 | -- |
| Specific migration of Arsenic* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Cadmium* | ND | ND | ND | 0.002 | Not detected (<0.002) |
| Specific migration of Chromium* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Mercury* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Lead* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Europeum* | ND | ND | ND | 0.02 | -- |
| Specific migration of Gadolinium* | ND | ND | ND | 0.02 | |
| Specific migration of Lanthanum* | ND | ND | ND | 0.02 | |
| Specific migration of Terbium* | ND | ND | ND | 0.02 | |

| Test Items | Result(mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|
| | 2nd Migration | | | | |
| | No.1 | No.2 | No.3 | | |
| Specific migration of Nickel | ND | ND | ND | 0.01 | -- |
| Specific migration of Aluminium | ND | ND | ND | 0.1 | -- |
| Specific migration of Barium | ND | ND | ND | 0.1 | -- |
| Specific migration of Cobalt | ND | ND | ND | 0.01 | -- |
| Specific migration of Copper | ND | ND | ND | 0.1 | -- |
| Specific migration of Iron | ND | ND | ND | 0.1 | -- |
| Specific migration of Lithium | ND | ND | ND | 0.01 | -- |
| Specific migration of Manganese | ND | ND | ND | 0.01 | -- |
| Specific migration of Zinc | ND | ND | ND | 0.1 | -- |
| Specific migration of Antimony* | ND | ND | ND | 0.01 | -- |
| Specific migration of Arsenic* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Cadmium* | ND | ND | ND | 0.002 | Not detected (<0.002) |
| Specific migration of Chromium* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Mercury* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Lead* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Europeum * | ND | ND | ND | 0.02 | -- |
| Specific migration of Gadolinium* | ND | ND | ND | 0.02 | |
| Specific migration of Lanthanum* | ND | ND | ND | 0.02 | |
| Specific migration of Terbium* | ND | ND | ND | 0.02 | |

| Test Items | Result(mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|
| | 3rd Migration | | | | |
| | No.1 | No.2 | No.3 | | |
| Specific migration of Nickel | ND | ND | ND | 0.01 | 0.02 |
| Specific migration of Aluminium | ND | ND | ND | 0.1 | 1 |
| Specific migration of Barium | ND | ND | ND | 0.1 | 1 |
| Specific migration of Cobalt | ND | ND | ND | 0.01 | 0.05 |
| Specific migration of Copper | ND | ND | ND | 0.1 | 5 |
| Specific migration of Iron | ND | ND | ND | 0.1 | 48 |
| Specific migration of Lithium | ND | ND | ND | 0.01 | 0.6 |
| Specific migration of Manganese | ND | ND | ND | 0.01 | 0.6 |
| Specific migration of Zinc | ND | ND | ND | 0.1 | 5 |
| Specific migration of Antimony* | ND | ND | ND | 0.01 | 0.04 |
| Specific migration of Arsenic* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Cadmium* | ND | ND | ND | 0.002 | Not detected (<0.002) |
| Specific migration of Chromium* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Mercury* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Lead* | ND | ND | ND | 0.01 | Not detected (<0.01) |
| Specific migration of Europeum* | ND | ND | ND | 0.02 | Sum<0.05 |
| Specific migration of Gadolinium* | ND | ND | ND | 0.02 | |
| Specific migration of Lanthanum* | ND | ND | ND | 0.02 | |
| Specific migration of Terbium* | ND | ND | ND | 0.02 | |

Note:

1. Test Method: With reference to BS EN 13130-1: 2004, sample preparation in 3% acetic acid at 70°C for 2 hours, analysis was performed by ICP-OES and ICP-MS.
2. “mg/kg” = milligram per kilogram of foodstuff in contact with
3. LOQ = Limit of quantitation
4. ND = Not Detected or lower than limit of quantitation
5. The specification was quoted from (EU) No 10/2011 and its amendments (EU) 2016/1416, (EU) 2017/752 and (EU) 2020/1245.
6. The testing item marked with ‘*’ does not been accredited by CNAS.

**7. Specific Migration of Primary Aromatic Amines**

| Test Item | Result (mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|
| | No.1 | No.2 | No.3 | | |
| Migration of Primary aromatic amines | ND | ND | ND | 0.002 | <0.01mg/kg |

Note:

1. Test Method: With reference to § 64 LFGB L No. 00.00-6, analysis was performed by UV-visible Spectrometer.
2. Test Condition and simulant: 3% acetic acid at 70°C for 2 hours.
3. “mg/kg” = milligram per kilogram of foodstuff in contact with
4. LOQ = Limit of quantitation
5. ND = Not Detected or lower than limit of quantitation
6. The specification was quoted from (EU) No 10/2011 and its amendments (EU) 2016/1416, (EU) 2017/752 and (EU) 2020/1245.

**8. Specific Migration of Primary Aromatic Amines (single substance) ***

| Test Items | CAS No. | Result(mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|---|
| | | 1st Migration | | | | |
| | | No.1 | No.2 | No.3 | | |
| 2-methoxyaniline | 90-04-0 | ND | ND | ND | 0.002 | -- |
| 4,4'-Diaminobiphenyl | 92-87-5 | ND | ND | ND | 0.002 | -- |
| 4,4'-Methylen-bis-(2-chloroaniline) | 101-14-4 | ND | ND | ND | 0.002 | -- |
| 4,4'-Diaminodiphenylmethane | 101-77-9 | ND | ND | ND | 0.002 | -- |
| 4,4'-Oxydianiline | 101-80-4 | ND | ND | ND | 0.002 | -- |
| 4-chloroaniline | 106-47-8 | ND | ND | ND | 0.002 | -- |
| 3,3'-Dimethoxybenzidine | 119-90-4 | ND | ND | ND | 0.002 | -- |
| 3,3'-Dimethylbenzidine | 119-93-7 | ND | ND | ND | 0.002 | -- |
| 2-Methoxy-5-methylaniline | 120-71-8 | ND | ND | ND | 0.002 | -- |
| 2,4,5 – Trimethylaniline | 137-17-7 | ND | ND | ND | 0.002 | -- |
| 4,4'-Thiodianiline | 139-65-1 | ND | ND | ND | 0.002 | -- |
| 4-aminoazobenzene | 60-09-3 | ND | ND | ND | 0.002 | -- |
| 2,4-diaminoanisol | 615-05-4 | ND | ND | ND | 0.002 | -- |
| 4,4'-diamino-3,3'-dimethyldiphenylmethane | 838-88-0 | ND | ND | ND | 0.002 | -- |
| 2-Naphthylamine | 91-59-8 | ND | ND | ND | 0.002 | -- |
| 3,3'-Dichlorobenzidine | 91-94-1 | ND | ND | ND | 0.002 | -- |
| 4-Aminobiphenyl | 92-67-1 | ND | ND | ND | 0.002 | -- |
| 2-methylaniline | 95-53-4 | ND | ND | ND | 0.002 | -- |
| 4-chloro-o-Toluidine | 95-69-2 | ND | ND | ND | 0.002 | -- |
| 2,4-Toluylendiamine | 95-80-7 | ND | ND | ND | 0.002 | -- |
| 2,4-Aminoazotoluene | 97-56-3 | ND | ND | ND | 0.002 | -- |
| 2-Amino-4-nitrotoluene | 99-55-8 | ND | ND | ND | 0.002 | -- |
| 2,4-Xylidin | 95-68-1 | ND | ND | ND | 0.002 | -- |
| 2,6-Xylidin | 87-62-7 | ND | ND | ND | 0.002 | -- |
| 1, 3 - phenylene diamine | 108-45-2 | ND | ND | ND | 0.002 | -- |

| Test Items | CAS No. | Result(mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|---|
| | | 2nd Migration | | | | |
| | | No.1 | No.2 | No.3 | | |
| 2-methoxyaniline | 90-04-0 | ND | ND | ND | 0.002 | -- |
| 4,4'-Diaminobiphenyl | 92-87-5 | ND | ND | ND | 0.002 | -- |
| 4,4'-Methylen-bis-(2-chloroaniline) | 101-14-4 | ND | ND | ND | 0.002 | -- |
| 4,4'-Diaminodiphenylmethane | 101-77-9 | ND | ND | ND | 0.002 | -- |
| 4,4'-Oxydianiline | 101-80-4 | ND | ND | ND | 0.002 | -- |
| 4-chloroaniline | 106-47-8 | ND | ND | ND | 0.002 | -- |
| 3,3'-Dimethoxybenzidine | 119-90-4 | ND | ND | ND | 0.002 | -- |
| 3,3'-Dimethylbenzidine | 119-93-7 | ND | ND | ND | 0.002 | -- |
| 2-Methoxy-5-methylaniline | 120-71-8 | ND | ND | ND | 0.002 | -- |
| 2,4,5 – Trimethylaniline | 137-17-7 | ND | ND | ND | 0.002 | -- |
| 4,4'-Thiodianiline | 139-65-1 | ND | ND | ND | 0.002 | -- |
| 4-aminoazobenzene | 60-09-3 | ND | ND | ND | 0.002 | -- |
| 2,4-diaminoanisol | 615-05-4 | ND | ND | ND | 0.002 | -- |
| 4,4'-diamino-3,3'-dimethyldiphenylmethane | 838-88-0 | ND | ND | ND | 0.002 | -- |
| 2-Naphthylamine | 91-59-8 | ND | ND | ND | 0.002 | -- |
| 3,3'-Dichlorobenzidine | 91-94-1 | ND | ND | ND | 0.002 | -- |
| 4-Aminobiphenyl | 92-67-1 | ND | ND | ND | 0.002 | -- |
| 2-methylaniline | 95-53-4 | ND | ND | ND | 0.002 | -- |
| 4-chloro-o-Toluidine | 95-69-2 | ND | ND | ND | 0.002 | -- |
| 2,4-Toluylendiamine | 95-80-7 | ND | ND | ND | 0.002 | -- |
| 2,4-Aminoazotoluene | 97-56-3 | ND | ND | ND | 0.002 | -- |
| 2-Amino-4-nitrotoluene | 99-55-8 | ND | ND | ND | 0.002 | -- |
| 2,4-Xylidin | 95-68-1 | ND | ND | ND | 0.002 | -- |
| 2,6-Xylidin | 87-62-7 | ND | ND | ND | 0.002 | -- |
| 1, 3 - phenylene diamine | 108-45-2 | ND | ND | ND | 0.002 | -- |

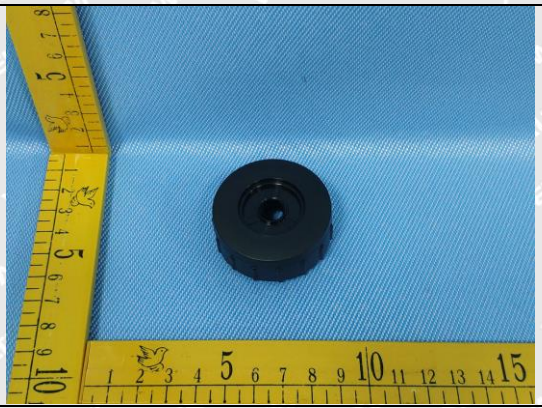
| Test Items | CAS No. | Result(mg/kg) | | | LOQ (mg/kg) | Limit (mg/kg) |
|---|---|---|---|---|---|---|
| | | 3rd Migration | | | | |
| | | No.1 | No.2 | No.3 | | |
| 2-methoxyaniline | 90-04-0 | ND | ND | ND | 0.002 | ND |
| 4,4'-Diaminobiphenyl | 92-87-5 | ND | ND | ND | 0.002 | ND |
| 4,4'-Methylen-bis-(2-chloroaniline) | 101-14-4 | ND | ND | ND | 0.002 | ND |
| 4,4'-Diaminodiphenylmethane | 101-77-9 | ND | ND | ND | 0.002 | ND |
| 4,4'-Oxydianiline | 101-80-4 | ND | ND | ND | 0.002 | ND |
| 4-chloroaniline | 106-47-8 | ND | ND | ND | 0.002 | ND |
| 3,3'-Dimethoxybenzidine | 119-90-4 | ND | ND | ND | 0.002 | ND |
| 3,3'-Dimethylbenzidine | 119-93-7 | ND | ND | ND | 0.002 | ND |
| 2-Methoxy-5-methylaniline | 120-71-8 | ND | ND | ND | 0.002 | ND |
| 2,4,5 – Trimethylaniline | 137-17-7 | ND | ND | ND | 0.002 | ND |
| 4,4'-Thiodianiline | 139-65-1 | ND | ND | ND | 0.002 | ND |
| 4-aminoazobenzene | 60-09-3 | ND | ND | ND | 0.002 | ND |
| 2,4-diaminoanisol | 615-05-4 | ND | ND | ND | 0.002 | ND |
| 4,4'-diamino-3,3'-dimethyldiphenylmethane | 838-88-0 | ND | ND | ND | 0.002 | ND |
| 2-Naphthylamine | 91-59-8 | ND | ND | ND | 0.002 | ND |
| 3,3'-Dichlorobenzidine | 91-94-1 | ND | ND | ND | 0.002 | ND |
| 4-Aminobiphenyl | 92-67-1 | ND | ND | ND | 0.002 | ND |
| 2-methylaniline | 95-53-4 | ND | ND | ND | 0.002 | ND |
| 4-chloro-o-Toluidine | 95-69-2 | ND | ND | ND | 0.002 | ND |
| 2,4-Toluylendiamine | 95-80-7 | ND | ND | ND | 0.002 | ND |
| 2,4-Aminoazotoluene | 97-56-3 | ND | ND | ND | 0.002 | ND |
| 2-Amino-4-nitrotoluene | 99-55-8 | ND | ND | ND | 0.002 | ND |
| 2,4-Xylidin | 95-68-1 | ND | ND | ND | 0.002 | ND |
| 2,6-Xylidin | 87-62-7 | ND | ND | ND | 0.002 | ND |
| 1, 3 - phenylene diamine | 108-45-2 | ND | ND | ND | 0.002 | ND |

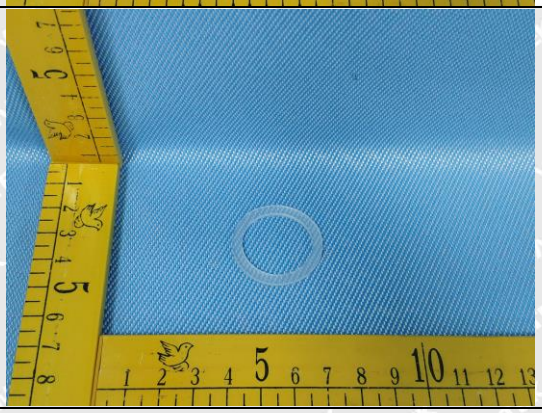
Note:

1. Test Method: With reference to EN 13130-1:2004, analysis was performed by LC-MS-MS.
2. Test Condition and simulant: 3% acetic acid at 70°C for 2 hours.
3. “mg/kg” = milligram per kilogram of foodstuff in contact with
4. LOQ = Limit of quantitation
5. ND = Not Detected or lower than limit of quantitation
6. The specification was quoted from (EU) No 10/2011 and its amendments (EU) 2016/1416, (EU) 2017/752 and (EU) 2020/1245.
7. The testing item marked with ‘*’ does not been accredited by CNAS.

**Sample Photo：**

**Photograph of parts tested:**

| No. | Photo of testing part | Parts Description | Client Claimed Material |
|---|---|---|---|
| 1 |  | Black plastic | PP |

| No. | Photo of testing part | Parts Description | Client Claimed Material |
|---|---|---|---|
| 2 |  | Translucent black plastic | RPET |
| 3 |  | Black plastic | PE |
| 4 |  | Transparent silicone rubber | Silicone rubber |

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