

TEST REPORT

APPLICANT : Mid Ocean Hong Kong Ltd.

ADDRESS : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan,
Kowloon, Hong Kong

SAMPLE DESCRIPTION : PLA double wall tumbler with recycled PP drinking lid

ITEM NO. : MO2310

VENDOR CODE : 111034

SAMPLE RECEIVED DATE : 29-May-2024

FURTHER INFORMATION DATE : 17-Jun-2024

TURN AROUND TIME : 29-May-2024 to 17-Jun-2024

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Total Lead Content	REACH Annex XVII, Entry 63	Pass
Total Cadmium Content	REACH Annex XVII, Entry 23	Pass
Phthalates Content	REACH Annex XVII, Entry 51 & 52	Pass
Polycyclic Aromatic Hydrocarbons (PAHs)	REACH Annex XVII, Entry 50	Pass
Overall Migration	(EU) No 10/2011 and its amendments	Pass
Overall Migration	Resolution ResAP (2004) 5	Pass
Overall Migration	DGCCRF French Decree No. 2007-766	Pass
Bisphenol A (BPA) Content	DGCCRF French Decree No. 2007-766	Pass
Peroxide Value	French Arrêté du 25 Novembre 1992	Pass
Volatile Organic Matter	French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Bisphenol A	LFGB Section 30 and 31	Pass
Specific Migration of Organotin (as tin)	French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Primary Aromatic Amines	DGCCRF French Decree No. 2007-766	Pass
Specific Migration of Bisphenol A (BPA)	(EU)No 10/2011 and its amendments	Pass
Bisphenol A (BPA) Content	EPA 3550C:2007, EPA 8321B:2007	See Test Result

Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number.



TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Specific Migration of Heavy Metals	(EU) No 10/2011 and its amendments	Pass
Specific Migration of Heavy Metals(Ca, Mg, K, Na)	Regulation (EC) No 1935/2004. Regulation (EU) No 10/2011 and its amendments(Including (EU)No 1245/2020 & (EU) No 2023/1442).	See Test Result

Note : This report cancels and supersedes report number EFW524061257-CG-01 issued on June 20th, 2024.

Modification description: as per client' s request, perform individual test (all FCA tests) for different material and different color in the revised report.

Eurofins (Shanghai) contact information

Customer service: Winnie.Dong@cpt.eurofinscn.com/ +86 18601770010

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***** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) *****

Signed for and on behalf of
Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd.



Shen Wei Qiang, Louis
Manager, Analytical Division



Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number.

TEST SAMPLE PHOTO(S)**A****EFW524061257-CG-01+Rev 1**

REFERENCE SAMPLE PHOTO(S)



The reference sample(s) has not been tested in current report, but according to customer's request, the picture has also been included. For sample tested in current report, please refer to "Test sample photo".

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	White recycled PP	A
2	White PLA body and lid	A
3	White silicone	A
4	Transparent silicone	A

TO BE CONTINUED

TEST RESULT

Total Lead Content

Test Request: Total lead content as specified in entry 63 of annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 2015/628.

Test Method: EPA 3050B:1996, EPA 3051A:2007, EPA 3052:1996, acid digestion/ microwave digestion method was used, analysis was performed by ICP-OES.

Test Item(s)	Unit	Limit	MDL	Result			
				1	2	3	4
Lead (Pb)	mg/kg	500	10	ND	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total Cadmium Content

Test Request: Total cadmium content as specified in Commission Regulation (EU) 2016/217 amending entry 23 of Annex XVII of REACH Regulation (EC) No 1907/2006.

Test Method: EPA 3050B:1996, EPA 3051A:2007, EPA 3052:1996, acid digestion/ microwave digestion method was used, analysis was performed by ICP-OES.

Test Item(s)	Unit	Limit	MDL	Result			
				1	2	3	4
Cadmium (Cd)	mg/kg	100	5	ND	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Phthalates Content

Test Request: Phthalates content as specified in entry 51&52 of annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Commission Regulation (EU) 2018/2005.

Test Method: EPA 3550C:2007, EPA 8270E:2018, solvent extraction and quantification by GC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result			
					1	2	3	4
Di-n-butyl phthalate (DBP)	84-74-2	%	-	0.005	ND	ND	ND	ND
Benzylbutyl phthalate (BBP)	85-68-7	%	-	0.005	ND	ND	ND	ND
Diethylhexyl phthalate (DEHP)	117-81-7	%	-	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	-	0.005	ND	ND	ND	ND
Sum of DEHP, DBP, BBP, DIBP	-	%	0.1	-	ND	ND	ND	ND
Di-n-octyl phthalate (DNOP)	117-84-0	%	-	0.005	ND	ND	ND	ND
Diisononyl phthalate (DINP)	28553-12-0	%	-	0.005	ND	ND	ND	ND
Diisodecyl phthalate (DIDP)	26761-40-0	%	-	0.005	ND	ND	ND	ND
Sum of DNOP, DINP, DIDP	-	%	0.1	-	ND	ND	ND	ND

Remarks:

MDL = method detection limit

ND = Not detected, less than MDL

"-"= Not Regulated

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Request: Polycyclic Aromatic Hydrocarbons (PAHs) content as specified in entry 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its latest amendment.

Test Method: Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to AfPS GS 2019:01 PAK.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result			
					1	2	3	4
Benzo(a)anthracene	56-55-3	mg/kg	1	0.1	ND	ND	ND	ND
Chrysene	218-01-9	mg/kg	1	0.1	ND	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	1	0.1	ND	ND	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	1	0.1	ND	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	1	0.1	ND	ND	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	1	0.1	ND	ND	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1	0.1	ND	ND	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.1	ND	ND	ND	ND

Remarks:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Overall Migration

Test Request: To determine the Overall Migration for compliance with Commission Regulation (EU) No 10/2011 and its amendments relating to plastic materials and articles intended to come into contact with foodstuffs.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					1		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					2		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm²= milligram per square decimeter
Analytical tolerance of evaporable simulants is 2 mg/dm²
Test condition & simulant were specified by client.

Overall Migration

Test Request: In accordance with Council of Europe Resolution ResAP (2004) 5.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					3		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					4		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm²= milligram per square decimeter
Analytical tolerance of evaporable simulants is 2 mg/dm²
Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Overall Migration

Test Request: To determine the Overall Migration for compliance with French Décret 2007-766 with its amendments and Fiche MCDA n°3 (V03-09/09/2021) Organic materials made of synthetic material.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					1		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					2		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm²= milligram per square decimeter

Analytical tolerance of evaporable simulants is 2 mg/dm²

Test condition & simulant were specified by client.

Overall Migration

Test Request: To determine the Overall Migration for compliance with French Décret 2007-766 with its amendments and French Arrêté du 25 Novembre 1992.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					3		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					4		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	70°C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm²= milligram per square decimeter

Analytical tolerance of evaporable simulants is 2 mg/dm²

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Bisphenol A (BPA) Content

Test Request: In accordance with French Décret 2007-766 and its amendment, French Law 2012-1442 of 24 Dec 2012.

Test Method: With reference to EPA 3550C:2007, EPA 8321B:2007, analysis was performed by LC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result			
					1	2	3	4
Bisphenol A	80-05-7	mg/kg	0.1	0.10	ND	ND	ND	ND

Remarks:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Peroxide Value

Test Request: To determine the peroxide values for compliance with French Décret No. 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicon materials. Test with reference to European pharmacopoeia 9.0-2.5.5.

Sample	Limit	Result
3	Absent	Absent
4	Absent	Absent

Volatile Organic Matter

Test Request: To determine the volatile organic matter for compliance with French Décret No. 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicon materials.

Test Method: According to French Arrêté du 25 Novembre 1992, Annex III.

Test Item(s)	Unit	Limit	MDL	Result	
				3	4
Volatile organic compound	%	0.5	0.10	N.D.	N.D.

Remark:

% = percentage of weight by weight

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Specific Migration of Bisphenol A (BPA)

Test Request: Specific migration of BPA as specified in German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31 with amendments and BfR recommendation.

Test Method: With reference to Regulation (EU) No 10/2011 and its amendments for selection of test condition, and EN 13130-1:2004 for test preparation method, analysis was performed by LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 70°C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					3		
					1 st	2 nd	3 rd
Bisphenol A	80-05-7	mg/kg	0.05	0.01	ND	ND	ND

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					4		
					1 st	2 nd	3 rd
Bisphenol A	80-05-7	mg/kg	0.05	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client.

Specific Migration of Organotin (as tin)

Test Request: To determine the specific migration of organotin (as tin) for compliance with French Decree No. 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicon materials.

Test Method: With reference to EN 13130-1:2004 for test preparation method, analysis was performed by ICP-MS.

Simulant Used: 3% Acetic Acid

Test Condition: 70°C 2h

Test Item(s)	Unit	Limit	MDL	Result		
				3		
				1 st	2 nd	3 rd
Tin (Sn)	mg/kg	0.1	0.01	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result		
				4		
				1 st	2 nd	3 rd
Tin (Sn)	mg/kg	0.1	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Primary Aromatic Amines

Test Request: Specific migration of primary aromatic amines as specified in French Décret 2007-766 with its amendments and Fiche MCDA n°3 (V03-09/09/2021) Organic materials made of synthetic material.

Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 70°C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					1		
					1 st	2 nd	3 rd
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND

Total other primary aromatic amines are 1,4-phenylenediamine (CAS No.: 106-50-3), 2,4-dimethylaniline (CAS No.: 95-68-1), 2,6-dimethylaniline (CAS No.: 87-62-7), aniline (CAS No.: 62-53-3).

TO BE CONTINUED

TEST RESULT

Specific Migration of Primary Aromatic Amines

Test Request: Specific migration of primary aromatic amines as specified in French Décret 2007-766 with its amendments and Fiche MCDA n°3 (V03-09/09/2021) Organic materials made of synthetic material.

Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 70°C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					2		
					1 st	2 nd	3 rd
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total other primary aromatic amines are 1,4-phenylenediamine (CAS No.: 106-50-3), 2,4-dimethylaniline (CAS No.: 95-68-1), 2,6-dimethylaniline (CAS No.: 87-62-7), aniline (CAS No.: 62-53-3).

TO BE CONTINUED

TEST RESULT

Specific Migration of Bisphenol A (BPA)

Test Request: Specific migration of BPA as specified in Commission Regulation (EU) No 10/2011 and its amendments.

Test Method: With reference to Regulation (EU) No 10/2011 and its amendments for selection of test condition, and EN 13130-1:2004 for test preparation method, analysis was performed by LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 70°C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					3		
					1st	2nd	3rd
Bisphenol A	80-05-7	mg/kg	0.05	0.01	ND	ND	ND

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					4		
					1st	2nd	3rd
Bisphenol A	80-05-7	mg/kg	0.05	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Bisphenol A (BPA) Content

Test Request: Bisphenol A content as per client's request.

Test Method: With reference to EPA 3550C:2007, EPA 8321B:2007, analysis was performed by LC-MSMS.

Test Item(s)	CAS No.	Unit	MDL	Result			
				1	2	3	4
Bisphenol A	80-05-7	mg/kg	0.05	ND	ND	ND	ND

Remarks:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metals

Test method : The concentration of the following elements is examined by means of inductively coupled plasma mass spectroscopy.

Limit according to Regulation (EU) No 10/2011 and its amendments.

Test condition :

Food simulant	Test duration/temperature
3% Acetic Acid	2 hours / 70°C

Testing Material No.		1			Detection limit	Limit
Parameter	Unit	Test result				
		Trial I	Trial II	Trial III		
Barium (Ba)	mg/kg	N.D.	N.D.	N.D.	0.1	1
Cobalt (Co)	mg/kg	N.D.	N.D.	N.D.	0.01	0.05
Copper (Cu)	mg/kg	N.D.	N.D.	N.D.	0.1	5
Iron (Fe)	mg/kg	N.D.	N.D.	N.D.	1	48
Lithium (Li)	mg/kg	N.D.	N.D.	N.D.	0.1	0.6
Manganese (Mn)	mg/kg	N.D.	N.D.	N.D.	0.1	0.6
Zinc (Zn)	mg/kg	N.D.	N.D.	N.D.	1	5
Aluminum (Al)	mg/kg	N.D.	N.D.	N.D.	0.1	1
Nickel (Ni)	mg/kg	N.D.	N.D.	N.D.	0.01	0.02
Arsenic (As)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D
Antimony (Sb)	mg/kg	N.D.	N.D.	N.D.	0.01	0.04
Cadmium (Cd)	mg/kg	N.D.	N.D.	N.D.	0.002	N.D
Chromium (Cr)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D
Europium (Eu)	mg/kg	N.D.	N.D.	N.D.	0.01	0.05
Gadolinium (Gd)	mg/kg	N.D.	N.D.	N.D.	0.01	
Lanthanum (La)	mg/kg	N.D.	N.D.	N.D.	0.01	
Terbium (Tb)	mg/kg	N.D.	N.D.	N.D.	0.01	
Lead (Pb)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D
Mercury (Hg)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metals

Test method : The concentration of the following elements is examined by means of inductively coupled plasma mass spectroscopy.

Limit according to Regulation (EU) No 10/2011 and its amendments.

Test condition :

Food simulant	Test duration/temperature
3% Acetic Acid	2 hours / 70°C

Testing Material No.		2			Detection limit	Limit
Parameter	Unit	Test result				
		Trial I	Trial II	Trial III		
Barium (Ba)	mg/kg	N.D.	N.D.	N.D.	0.1	1
Cobalt (Co)	mg/kg	N.D.	N.D.	N.D.	0.01	0.05
Copper (Cu)	mg/kg	N.D.	N.D.	N.D.	0.1	5
Iron (Fe)	mg/kg	N.D.	N.D.	N.D.	1	48
Lithium (Li)	mg/kg	N.D.	N.D.	N.D.	0.1	0.6
Manganese (Mn)	mg/kg	N.D.	N.D.	N.D.	0.1	0.6
Zinc (Zn)	mg/kg	N.D.	N.D.	N.D.	1	5
Aluminum (Al)	mg/kg	N.D.	N.D.	N.D.	0.1	1
Nickel (Ni)	mg/kg	N.D.	N.D.	N.D.	0.01	0.02
Arsenic (As)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D
Antimony (Sb)	mg/kg	N.D.	N.D.	N.D.	0.01	0.04
Cadmium (Cd)	mg/kg	N.D.	N.D.	N.D.	0.002	N.D
Chromium (Cr)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D
Europium (Eu)	mg/kg	N.D.	N.D.	N.D.	0.01	0.05
Gadolinium (Gd)	mg/kg	N.D.	N.D.	N.D.	0.01	
Lanthanum (La)	mg/kg	N.D.	N.D.	N.D.	0.01	
Terbium (Tb)	mg/kg	N.D.	N.D.	N.D.	0.01	
Lead (Pb)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D
Mercury (Hg)	mg/kg	N.D.	N.D.	N.D.	0.01	N.D

Note: - 1 mg/kg = 1 ppm = 0.0001%

- °C = degree Celsius

- N.D. = Not Detected

The test item(s) was/were subcontracted to Eurofins internal lab.

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metals(Ca, Mg, K, Na)

Test method : The concentration of the following elements is examined by ICP-MS/IC

Test condition :

Food simulant	Test duration/temperature
3% Acetic Acid	2 hours / 70°C

Testing Material No.		1			Detection limit
Parameter	Unit	Test result			
		Trial I	Trial II	Trial III	
Calcium(Ca)	mg/kg	1	0.5	N.D.	1
Magnesium(Mg)	mg/kg	1.02	N.D.	0.5	0.1
Kalium(K)	mg/kg	N.D.	N.D.	N.D.	0.1
Sodium(Na)	mg/kg	N.D.	N.D.	N.D.	1

Testing Material No.		2			Detection limit
Parameter	Unit	Test result			
		Trial I	Trial II	Trial III	
Calcium(Ca)	mg/kg	1	0.5	N.D.	1
Magnesium(Mg)	mg/kg	1.02	N.D.	0.5	0.1
Kalium(K)	mg/kg	N.D.	N.D.	N.D.	0.1
Sodium(Na)	mg/kg	N.D.	N.D.	N.D.	1

Note: - 1 mg/kg = 1 ppm = 0.0001%

- °C = degree Celsius

- N.D. = Not Detected

The test item(s) was/were subcontracted to Eurofins internal lab.

END OF THE REPORT

TEST REPORT

<u>Applicant</u>	: Mid Ocean Hong Kong Ltd.
<u>Address</u>	: 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.
<u>Sample description</u>	: MO2310 PLA double wall tumbler MO6582 double wall tumbler MO6583 double wall tumbler MO2256 reusable coffee cup
<u>Item no.</u>	: MO2310 MO6582 MO6583 MO2256
<u>Vendor no.</u>	: 111034
<u>Sample received date</u>	: 06-Nov-2024
<u>Sample resubmission date</u>	: 20-Nov-2024
<u>Turn around time</u>	: 06-Nov-2024 To 27-Nov-2024

Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number.



The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

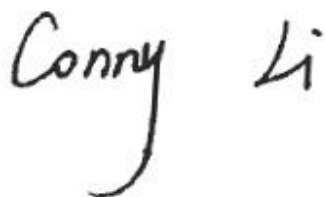
TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Phthalates Content	REACH Annex XVII, Entry 51 & 52	Pass
Polycyclic Aromatic Hydrocarbons (PAHs)	REACH Annex XVII, Entry 50	Pass
Total Lead Content	REACH Annex XVII, Entry 63	Pass
Total Cadmium Content	REACH Annex XVII, Entry 23	Pass
Overall Migration	(EU) No 10/2011 and its amendments	Pass
Overall Migration	Resolution ResAP (2004) 5	Pass
Overall Migration	DGCCRFR French Decree No. 2007-766	Pass
Specific Migration of Primary Aromatic Amines	(EU) No 10/2011 and its amendments	Pass
Specific Migration of Primary Aromatic Amines	DGCCRFR French Decree No. 2007-766	Pass
Bisphenol A (BPA) Content	DGCCRFR French Decree No. 2007-766	Pass
Specific Migration of Heavy Metal	(EU) No 10/2011 and its amendments	Pass
Specific Migration of Heavy Metal	DGCCRFR French Decree No. 2007-766	Pass
Peroxide Value	French Arrêté du 25 Novembre 1992	Pass
Peroxide Value	LFGB Section 30 and 31, and BfR XV	Pass
Volatile Organic Matter	French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Organotin (as tin)	French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Bisphenol A (BPA)	(EU) No 10/2011 and its amendments	Pass
Specific Migration of Heavy Metals(Ca, Mg, K, Na)	In House Test Method	See Test Result

Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to info.sh@cpt.eurofinscn.com and referring to this report number.

Eurofins (Shanghai) contact information**Customer service:** Winnie.Dong@cpt.eurofinscn.com**Sales specialist:** Lily.Li@cpt.eurofinscn.com\

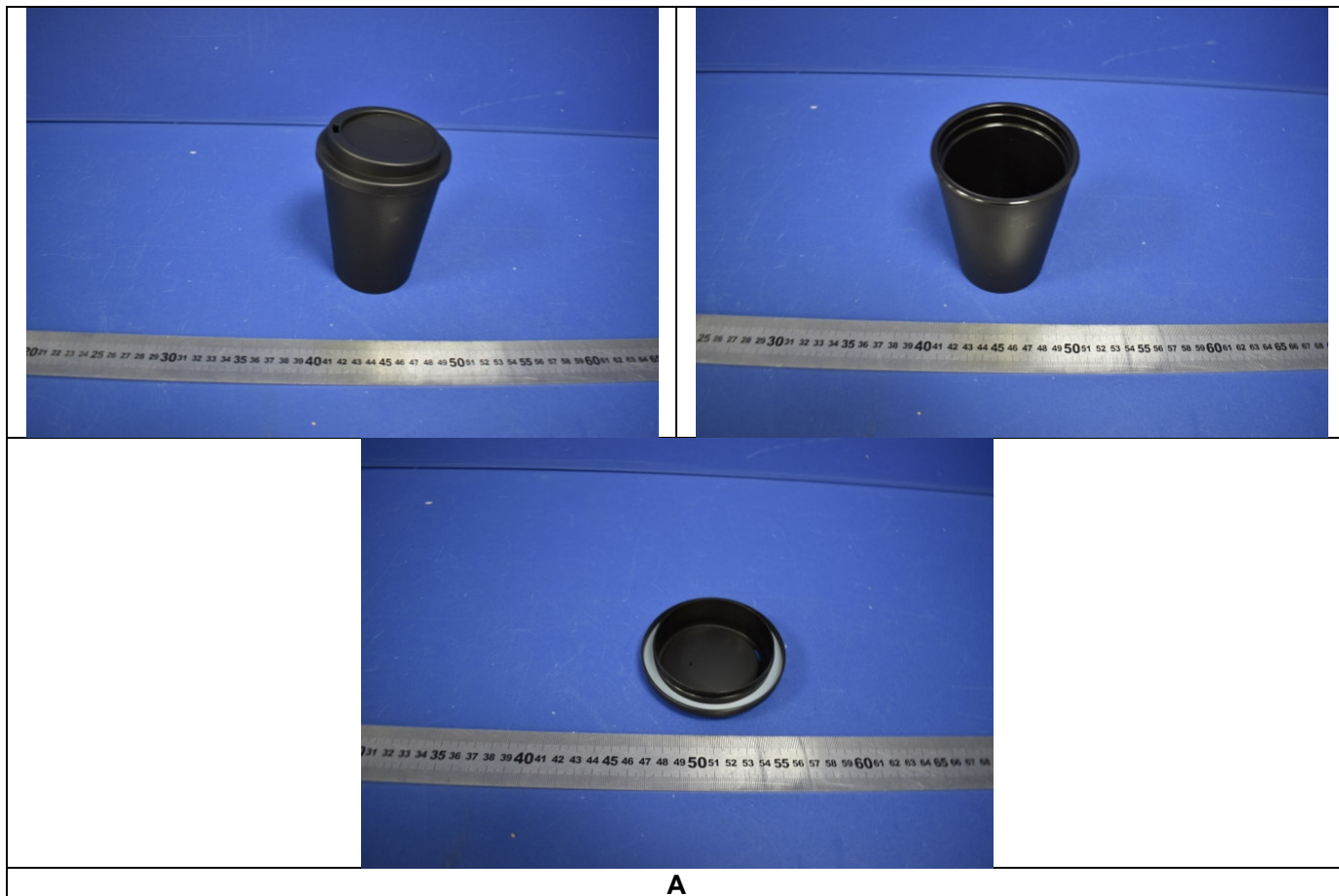
***** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) *****

Signed for and on behalf of
Eurofins MTS Consumer Product Testing (Shanghai) Co., Ltd.



Conny Li
Assistant Lab Manager CG

TEST SAMPLE PHOTO(S)



A

EFW524110193-CG-01

TO BE CONTINUED

REFERENCE SAMPLE PHOTO(S)



The reference sample(s) has not been tested in current report, but according to customer's request, the picture has also been included. For sample tested in current report, please refer to "Test sample photo".

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	Black PP cup body	A
2	Semi-transparent silicone sealing ring	A

TO BE CONTINUED

TEST RESULT

Phthalates Content

Test Request: Phthalates content as specified in entry 51&52 of annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Commission Regulation (EU) 2018/2005.

Test Method: EPA 3550C:2007, EPA 8270E:2018, solvent extraction and quantification by GC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result	
					1	2
Di-n-butyl phthalate (DBP)	84-74-2	%	-	0.005	ND	ND
Benzylbutyl phthalate (BBP)	85-68-7	%	-	0.005	ND	ND
Diethylhexyl phthalate (DEHP)	117-81-7	%	-	0.005	ND	ND
Di-iso-butyl phthalate (DIBP)	84-69-5	%	-	0.005	ND	ND
Sum of DEHP+DBP+BBP+DIBP	-	%	0.1	-	ND	ND
Di-n-octyl phthalate (DNOP)	117-84-0	%	-	0.005	ND	ND
Diisononyl phthalate (DINP)	28553-12-0	%	-	0.005	ND	ND
Diisodecyl phthalate (DIDP)	26761-40-0	%	-	0.005	ND	ND
Sum of DNOP, DINP, DIDP	-	%	0.1	-	ND	ND

Remarks:

MDL = method detection limit

ND = Not detected, less than MDL

"-"= Not Regulated

TO BE CONTINUED

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Request: Polycyclic Aromatic Hydrocarbons (PAHs) content as specified in entry 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its latest amendment.

Test Method: Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to AfPS GS 2019:01 PAK.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result	
					1	2
Benzo(a)anthracene	56-55-3	mg/kg	1	0.1	ND	ND
Chrysene	218-01-9	mg/kg	1	0.1	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	1	0.1	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	1	0.1	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	1	0.1	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	1	0.1	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1	0.1	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.1	ND	ND

Remarks:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Total Lead Content

Test Request: Total lead content as specified in entry 63 of annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 2015/628.

Test Method: EPA 3050B:1996, EPA 3051A:2007, EPA 3052:1996, acid digestion/ microwave digestion method was used, analysis was performed by ICP-OES.

Test Item(s)	Unit	Limit	MDL	Result	
				1	2
Lead (Pb)	mg/kg	500	10	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total Cadmium Content

Test Request: Total cadmium content as specified in Commission Regulation (EU) 2016/217 amending entry 23 of Annex XVII of REACH Regulation (EC) No 1907/2006.

Test Method: EPA 3050B:1996, EPA 3052:1996, EN 1122:2001 Method B, acid digestion method was used and total cadmium content was determined by ICP-OES.

Test Item(s)	Unit	Limit	MDL	Result	
				1	2
Cadmium (Cd)	mg/kg	100	5	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Overall Migration

Test Request: To determine the Overall Migration for compliance with Commission Regulation (EU) No 10/2011 and its amendments relating to plastic materials and articles intended to come into contact with foodstuffs.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					1		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70° C	mg/dm ²	10	3.0	<3.0	<3.0
50% Ethanol	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm² = milligram per square decimeter

Analytical tolerance of evaporable simulants is 2 mg/dm²

Analytical tolerance of fatty food simulant (olive oil) is 3 mg/dm²

Test condition & simulant were specified by client.

Overall Migration

Test Request: In accordance with Council of Europe Resolution ResAP (2004) 5.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					2		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
50% Ethanol	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm² = milligram per square decimeter

Analytical tolerance of evaporable simulants is 2 mg/dm²

Analytical tolerance of fatty food simulant (olive oil) is 3 mg/dm²

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Overall Migration

Test Request: To determine the Overall Migration for compliance with French Décret 2007-766 with its amendments and Fiche MCDA n° 3 (V03-09/09/2021) Organic materials made of synthetic material.

Test Method: According to appropriate method of EN1186-3:2022 method 1a, method 2, method 5 for evaporable simulants, EN 1186-2:2022 method 1 for fatty food simulants.

Simulant Used	Time	Temperature	Unit	Limit	Result		
					1		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70° C	mg/dm ²	10	3.0	<3.0	<3.0
50% Ethanol	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0

Remark:

mg/dm² = milligram per square decimeter

Analytical tolerance of evaporable simulants is 2 mg/dm²

Analytical tolerance of fatty food simulant (olive oil) is 3 mg/dm²

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Primary Aromatic Amines

Test Request: Specific migration of primary aromatic amines as specified in Commission Regulation (EU) No 10/2011 and its amendments.
Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.
Simulant Used: Acetic Acid 3%
Test Condition: 2h at 70° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					1		
					1 st	2 nd	3 rd
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total other primary aromatic amines are 1,4-phenylenediamine (CAS No.: 106-50-3), 2,4-dimethylaniline (CAS No.: 95-68-1), 2,6-dimethylaniline (CAS No.: 87-62-7), aniline (CAS No.: 62-53-3).

TO BE CONTINUED

TEST RESULT

Specific Migration of Primary Aromatic Amines

Test Request: Specific migration of primary aromatic amines as specified in French Décret 2007-766 with its amendments and Fiche MCDA n° 3 (V03-09/09/2021) Organic materials made of synthetic material.

Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 70° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					1		
					1 st	2 nd	3 rd
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total other primary aromatic amines are 1,4-phenylenediamine (CAS No.: 106-50-3), 2,4-dimethylaniline (CAS No.: 95-68-1), 2,6-dimethylaniline (CAS No.: 87-62-7), aniline (CAS No.: 62-53-3).

TO BE CONTINUED

TEST RESULT

Bisphenol A (BPA) Content

Test Request: In accordance with French Décret 2007-766 and its amendment, French Law 2012-1442 of 24 Dec 2012.

Test Method: With reference to EPA 3550C:2007, EPA 8321B:2007, analysis was performed by LC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result	
					1	2
Bisphenol A	80-05-7	mg/kg	0.1	0.1	ND	ND

Remarks:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metal

Test Request: Specific migration of heavy metal as specified in Commission Regulation (EU) No 10/2011 and its amendments.

Test Method: With reference to Regulation (EU) No 10/2011 and its amendments for selection of test condition, and EN 13130-1:2004 for test preparation method, analysis was performed by ICP-MS.

Simulant Used: 3% Acetic Acid

Test Condition: 2h at 70° C

Test Item(s)	Unit	Limit	MDL	Result		
				1		
				1 st	2 nd	3 rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.01	ND	ND	ND
Copper (Cu)	mg/kg	5	0.25	ND	ND	ND
Iron (Fe)	mg/kg	48	0.25	ND	ND	ND
Lithium (Li)	mg/kg	0.6	0.5	ND	ND	ND
Manganese (Mn)	mg/kg	0.6	0.05	ND	ND	ND
Zinc (Zn)	mg/kg	5	0.5	ND	ND	ND
Aluminium	mg/kg	1	0.1	ND	ND	ND
Nickel (Ni)	mg/kg	0.02	0.01	ND	ND	ND
Antimony (Sb)	mg/kg	0.04	0.01	ND	ND	ND
Arsenic (As)	mg/kg	ND	0.01	ND	ND	ND
Cadmium (Cd)	mg/kg	ND	0.002	ND	ND	ND
Chromium (Cr)	mg/kg	ND	0.01	ND	ND	ND
Europium (Eu)	mg/kg	-	0.01	ND	ND	ND
Gadolinium (Gd)	mg/kg	-	0.01	ND	ND	ND
Lanthanum (La)	mg/kg	-	0.01	ND	ND	ND
Terbium (Tb)	mg/kg	-	0.01	ND	ND	ND
Sum of lanthanide substances	mg/kg	0.05	-	ND	ND	ND
Lead (Pb)	mg/kg	ND	0.01	ND	ND	ND
Mercury (Hg)	mg/kg	ND	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metal

Test Request: Specific migration of heavy metal as specified in accordance with French Décret 2007-766 with its amendments and Fiche MCDA n° 3 (V03-09/09/2021) Organic materials made of synthetic material.

Test Method: With reference to Regulation (EU) No 10/2011 and its amendments for selection of test condition, and EN 13130-1:2004 for test preparation method, analysis was performed by ICP-MS.

Simulant Used: 3% Acetic Acid

Test Condition: 2h at 70° C

Test Item(s)	Unit	Limit	MDL	Result		
				1		
				1 st	2 nd	3 rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.01	ND	ND	ND
Copper (Cu)	mg/kg	5	0.25	ND	ND	ND
Iron (Fe)	mg/kg	48	0.25	ND	ND	ND
Lithium (Li)	mg/kg	0.6	0.5	ND	ND	ND
Manganese (Mn)	mg/kg	0.6	0.05	ND	ND	ND
Zinc (Zn)	mg/kg	5	0.5	ND	ND	ND
Aluminium	mg/kg	1	0.1	ND	ND	ND
Nickel (Ni)	mg/kg	0.02	0.01	ND	ND	ND
Antimony (Sb)	mg/kg	0.04	0.01	ND	ND	ND
Arsenic (As)	mg/kg	ND	0.01	ND	ND	ND
Cadmium (Cd)	mg/kg	ND	0.002	ND	ND	ND
Chromium (Cr)	mg/kg	ND	0.01	ND	ND	ND
Europium (Eu)	mg/kg	-	0.01	ND	ND	ND
Gadolinium (Gd)	mg/kg	-	0.01	ND	ND	ND
Lanthanum (La)	mg/kg	-	0.01	ND	ND	ND
Terbium (Tb)	mg/kg	-	0.01	ND	ND	ND
Sum of lanthanide substances	mg/kg	0.05	-	ND	ND	ND
Lead (Pb)	mg/kg	ND	0.01	ND	ND	ND
Mercury (Hg)	mg/kg	ND	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client

TO BE CONTINUED

TEST RESULT

Peroxide Value

Test Request: To determine the peroxide values for compliance with French Décret No. 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicon materials. Test with reference to European pharmacopoeia 9.0-2.5.5.

Sample	Limit	Result
2	Absent	Absent

Peroxide Value

Test Request: Peroxide values as specified in German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31 with amendments and BfR Recommendations XV for silicon rubber. Test with reference to European pharmacopoeia 9.0-2.5.5.

Sample	Limit	Result
2	Absent	Absent

TO BE CONTINUED

TEST RESULT

Volatile Organic Matter

Test Request: To determine the volatile organic matter for compliance with French Décret No. 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicon materials.

Test Method: According to French Arrêté du 25 Novembre 1992, Annex III.

Test Item(s)	Unit	Limit	MDL	Result	
				2	
Volatile organic compound	%	0.5	0.1	0.18	

Remark:

% = percentage of weight by weight

MDL = method detection limit

ND = Not detected, less than MDL

Specific Migration of Organotin (as tin)

Test Request: To determine the specific migration of organotin (as tin) for compliance with French Decree No. 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicon materials.

Test Method: With reference to EN 13130-1:2004 for test preparation method, analysis was performed by ICP-MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 100° C

Test Item(s)	Unit	Limit	MDL	Result		
				2		
				1 st	2 nd	3 rd
Tin (Sn)	mg/kg	0.1	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Bisphenol A (BPA)

Test Request: Specific migration of BPA as specified in Commission Regulation (EU) No 10/2011 and its amendments.

Test Method: With reference to Regulation (EU) No 10/2011 and its amendments for selection of test condition, and EN 13130-1:2004 for test preparation method, analysis was performed by LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 2h at 70° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					2		
					1 st	2 nd	3 rd
Bisphenol A	80-05-7	mg/kg	0.05	0.01	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metals(Ca, Mg, K, Na)

Test method : The concentration of the following elements is examined by ICP-MS/IC

Test condition :

Food simulant	Test duration/temperature
3% Acetic Acid	2 hours / 70°C

Testing Material No.		1			Detection limit
Parameter	Unit	Test result			
		Trial I	Trial II	Trial III	
Calcium(Ca)	mg/kg	N.D.	N.D.	N.D.	1
Magnesium(Mg)	mg/kg	N.D.	N.D.	N.D.	0.1
Kalium(K)	mg/kg	N.D.	N.D.	N.D.	0.1
Sodium(Na)	mg/kg	N.D.	N.D.	N.D.	1

Note: - 1 mg/kg = 1 ppm = 0.0001%

- °C = degree Celsius

- N.D. = Not Detected

Other Information / Remark:

- (1) Food contact area to food simulant (S/V in dm²/ L): Material No. 1 (6.0:1)
- (2) The test condition was specified by applicant.
- (3) The test item(s) was/were subcontracted to Eurofins internal lab.

END OF THE REPORT