

TEST REPORT

<u>APPLICANT</u>	: Mid Ocean Brands B.V.
<u>ADDRESS</u>	: 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.
<u>SAMPLE DESCRIPTION</u>	: PP tumbler with silicone lid
<u>ITEM NO.</u>	: MO8078
<u>VENDOR CODE</u>	: 111034
<u>SAMPLE RECEIVED DATE</u>	: 27-Oct-2023
<u>FURTHER INFORMATION DATE</u>	: 06-Nov-2023
<u>TURN AROUND TIME</u>	: 27-Oct-2023 to 06-Nov-2023

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	AP (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	(EU) No 10/2011 and its amendments	Pass
Specific Migration of Organotin (as tin)	French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Primary Aromatic Amines	(EU) No 10/2011 and its amendments	Pass
Specific Migration of Primary Aromatic Amines	Dutch CAPCA, Annex A, Chapter I	Pass
Specific Migration of Heavy Metal	Dutch CAPCA, Annex A, Chapter I	Pass
Overall Migration	Dutch CAPCA, Annex A, Chapter I	Pass
Overall Migration	Dutch CAPCA, Annex A, Chapter III	Pass
Specific Migration of Heavy Metals	Regulation (EC) No 1935/2004, Regulation (EU) No 10/2011 and its	Pass

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 Product Testing Service (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@eurofins.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 Product Testing Service (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to china.complaint@eurofins.com and referring to this report number.



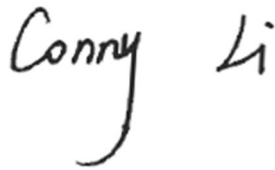
TEST REQUESTED	TEST METHOD/REGULATION	RESULT
	amendments(Including (EU) No 2023/1442)	
Specific Migration of Heavy Metals(Ca, Mg, K, Na)	In House Method	See Test Result

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

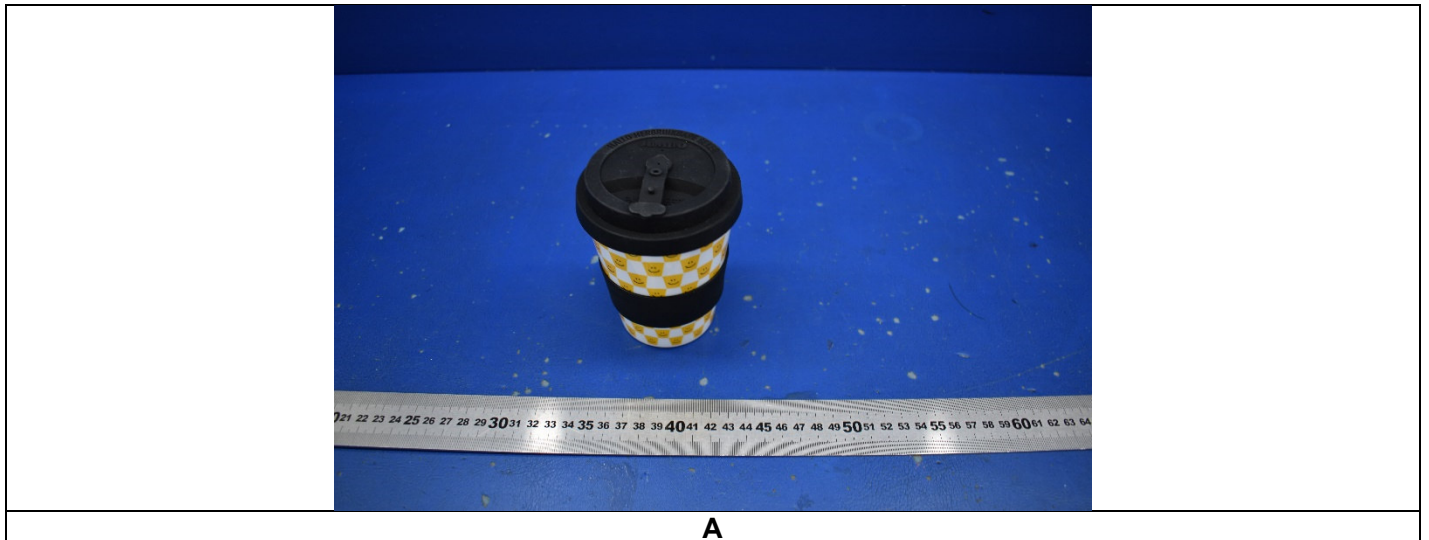
 Signed for and on behalf of
 Eurofins Product Testing Service (Shanghai) Co., Ltd



 Conny Li
 Assistant Lab Manager


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 Product Testing Service (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@eurofins.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 Product Testing Service (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to china.complaint@eurofins.com and referring to this report number.

SAMPLE PHOTO(S)



EFSH23101768-CG-01

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	Yellow/black coating on plastic	A
2	White plastic excluding coating	A
3	Black silicone (cup lid)	A
4	White PP with yellow/black coating	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
Lead (Pb)	mg/kg	500	10	ND	ND	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

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	
Cadmium (Cd)	mg/kg	1000	5	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	
				2	3
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

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
Di-n-butyl phthalate (DBP)	84-74-2	%	-	0.005	ND	ND	ND
Benzylbutyl phthalate (BBP)	85-68-7	%	-	0.005	ND	ND	ND
Diethylhexyl phthalate (DEHP)	117-81-7	%	-	0.005	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	-	0.005	ND	ND	ND
Sum of DEHP, DBP, BBP, DIBP	-	%	0.1	-	ND	ND	ND
Di-n-octyl phthalate (DNOP)	117-84-0	%	-	0.005	ND	ND	ND
Diisononyl phthalate (DINP)	28553-12-0	%	-	0.005	ND	ND	ND
Diisodecyl phthalate (DIDP)	26761-40-0	%	-	0.005	ND	ND	ND
Sum of DNOP, DINP, DIDP	-	%	0.1	-	ND	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	3
Benzo(a)anthracene	56-55-3	mg/kg	1	0.1	ND	ND	ND
Chrysene	218-01-9	mg/kg	1	0.1	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	1	0.1	ND	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	1	0.1	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	1	0.1	ND	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	1	0.1	ND	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1	0.1	ND	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.1	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		
					4		
					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 AP (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
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 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
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.

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	
					3	4
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

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

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
Volatile organic compound	%	0.5	0.1	0.23

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: To determine the specific migration of bisphenol A 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: 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: 3% Acetic Acid

Test Condition: 70° C 2h

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

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 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

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 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		
					4		
					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: To determine the Specific Migration of primary aromatic amines for compliance with Commodity Act on Packaging and Consumer Articles (Netherland) – Annex A, chapter I and (EC) No 1935/2004, on plastic materials and articles intended to come into contact with food or foodstuffs.

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		
					4		
					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 Heavy Metal

Test Request: To determine the Specific Migration of Heavy Metal for compliance with Commodity Act on Packaging and Consumer Articles (Netherland) – Annex A, chapter I and (EC) No 1935/2004, on plastic materials and articles intended to come into contact with food or foodstuffs.

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		
				4		
				1 st	2 nd	3 rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.05	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 (Al)	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 all 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

Overall Migration

Test Request: To determine the overall migration for compliance with Dutch Commodities Act Regulation on Packaging and Consumer Articles, Annex A, Chapter I for plastics.

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		
					4		
					1 st	2 nd	3 rd
3% Acetic Acid	2h	70° C	mg/kg	60	<20	<20	<20
50% Ethanol	2h	70° C	mg/kg	60	<20	<20	<20

Remark:

mg/kg= milligram per kilogram

Analytical tolerance of evaporable simulants is 12 mg/kg

Analytical tolerance of fatty food simulants is 20 mg/kg

Test condition & simulant were specified by client.

Overall Migration

Test Request: To determine the overall migration for compliance with Dutch Commodities Act Regulation on Packaging and Consumer Articles, Annex A, Chapter III.

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/kg	60	<20	<20	<20
50% Ethanol	2h	70° C	mg/kg	60	<20	<20	<20

Remark:

mg/kg= milligram per kilogram

Analytical tolerance of evaporable simulants is 12 mg/kg

Analytical tolerance of fatty food simulants is 20 mg/kg

Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metals

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

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

Simulant used: 3% Acetic acid

Test condition: 70°C 2hours

Test Item(s)	Max. Permissible limit	Unit	MDL	Test Result		
				4		
				1 st test	2 nd test	3 rd test
Barium (Ba)	1	mg/kg	0.1	ND	ND	ND
Cobalt (Co)	0.05	mg/kg	0.01	ND	ND	ND
Copper (Cu)	5	mg/kg	0.1	ND	ND	ND
Iron (Fe)	48	mg/kg	1	ND	ND	ND
Lithium (Li)	0.6	mg/kg	0.1	ND	ND	ND
Manganese (Mn)	0.6	mg/kg	0.1	ND	ND	ND
Zinc (Zn)	5	mg/kg	1	ND	ND	ND
Aluminum (Al)	1	mg/kg	0.1	ND	ND	ND
Nickel (Ni)	0.02	mg/kg	0.01	ND	ND	ND
Arsenic (As)	ND	mg/kg	0.01	ND	ND	ND
Antimony (Sb)	0.04	mg/kg	0.01	ND	ND	ND
Cadmium (Cd)	ND	mg/kg	0.002	ND	ND	ND
Chromium (Cr)	ND	mg/kg	0.01	ND	ND	ND
Europium (Eu)	0.05	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
Lead (Pb)		ND	mg/kg	0.01	ND	ND
Mercury (Hg)	ND	mg/kg	0.01	ND	ND	ND

Note:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) °C = degree Celsius
- (3) ND = Not Detected(<MDL)
- (4) The test item is tested in Eurofins Internal laboratory.

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

Simulant used: 3% Acetic acid

Test condition: 70°C 2hours

Test Item(s)	Unit	MDL	Test Result		
			4		
			1 st test	2 nd test	3 rd test
Calcium(Ca)	mg/kg	1	ND	ND	ND
Magnesium(Mg)	mg/kg	0.1	ND	ND	ND
Kalium(K)	mg/kg	0.1	ND	ND	ND
Sodium(Na)	mg/kg	1	ND	ND	ND

Note:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) °C = degree Celsius
- (3) ND = Not Detected(<MDL)
- (4) The test item is tested in Eurofins Internal laboratory.

END OF THE REPORT