

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>	: MO6240 Lunch box in PP with natural bamboo lid ; MO6205 PP lunch box with phone holder ; MO6254 PP lunch box ; MO6244 Double wall tumbler; MO8078 Single wall tumbler in shiny white PP with silicone lid and middle ring; MO6255 PP mug with spoon MO2119:DOUBLE LAYER RECYCLED PP LUNCH BOX MO2116:SET DOUBLE WALL VACUUM FLASK WITH LEAKPROOF CUP LID MO2117:DOUBLE WALL VACUUM FLASK WITH LEAKPROOF CUP LID
<u>MODEL NO.</u>	: MO6240;MO6205;MO6254;MO6244;MO8078;MO6255 MO2119,MO2116,MO2117
<u>SAMPLE RECEIVED DATE</u>	: 08-May-2023 28-Sept-2023 of MO2119/2116/2117
<u>TURN AROUND TIME</u>	: 08-May-2023 to 16-May-2023 28-Sept-2023 to 20-Oct-2023 of MO2119/2116/2117
<u>REVISED DATE</u>	: 20-Oct-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
Specific Migration of Formaldehyde	LFGB Section 30 and 31	Pass
Pentachlorophenol (PCP) Content	Regulation (EU) 2019/1021	Pass
Specific Migration of Heavy Metal	LFGB Section 30 and 31	Pass
Overall Migration for Plastic	LFGB Section 30 and 31	Pass
Overall Migration for Silicone	AP (2004) 5	Pass
Specific Migration of Bisphenol A	LFGB Section 30 and 31	Pass
Bisphenol A (BPA) Content	EPA 3550C:2007, EPA 8321B:2007	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 chinacomplaint@eurofins.com and referring to this report number.



TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Peroxide Value	LFGB Section 30 and 31, BfR Recommendations XV	Pass
Volatile Organic Matter	LFGB Section 30 and 31, BfR Recommendations XV	Pass
Specific Migration of Organotin (as tin)	French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Primary Aromatic Amines	LFGB Section 30 and 31	Pass
Specific Release of Heavy Metals	EU Resolution CM/Res(2013)9	Pass
Polycyclic Aromatic Hydrocarbons (PAHs)	REACH Annex XVII, Entry 50	Pass
Specific Migration of Heavy Metals	Regulation (EU) No 10/2011 and its amendments	Pass
Specific Migration of Heavy Metals(Ca, Mg, K, Na)	In House Test Method	Pass
Mechanical dishwashing resistance of utensils-Part 1: Reference test method for domestic articles	EN 12875-1: 2005	Pass
Mechanical dishwashing resistance of utensils-Part 2: Inspection of non-metallic articles	EN 12875-2:2001	Pass
Materials and articles in contact with food stuffs- Test method for the: resistance to microwave heating of ceramic, glass, glass-ceramic or plastics cookware	Refer to EN 15284:2007	Pass

Note: This report cancels and supersedes report number EFSH23042824-CG-01+Rev 2 issued on Jul 24th, 2023.
Modification description:

- 1.As per client's request, add sample description and item No. in the revised report.
- 2.As per client's request, add sample E,F,G for relative tests in the revised report.
- 3.As per client's request, add reference sample photo(s) in the revised report.

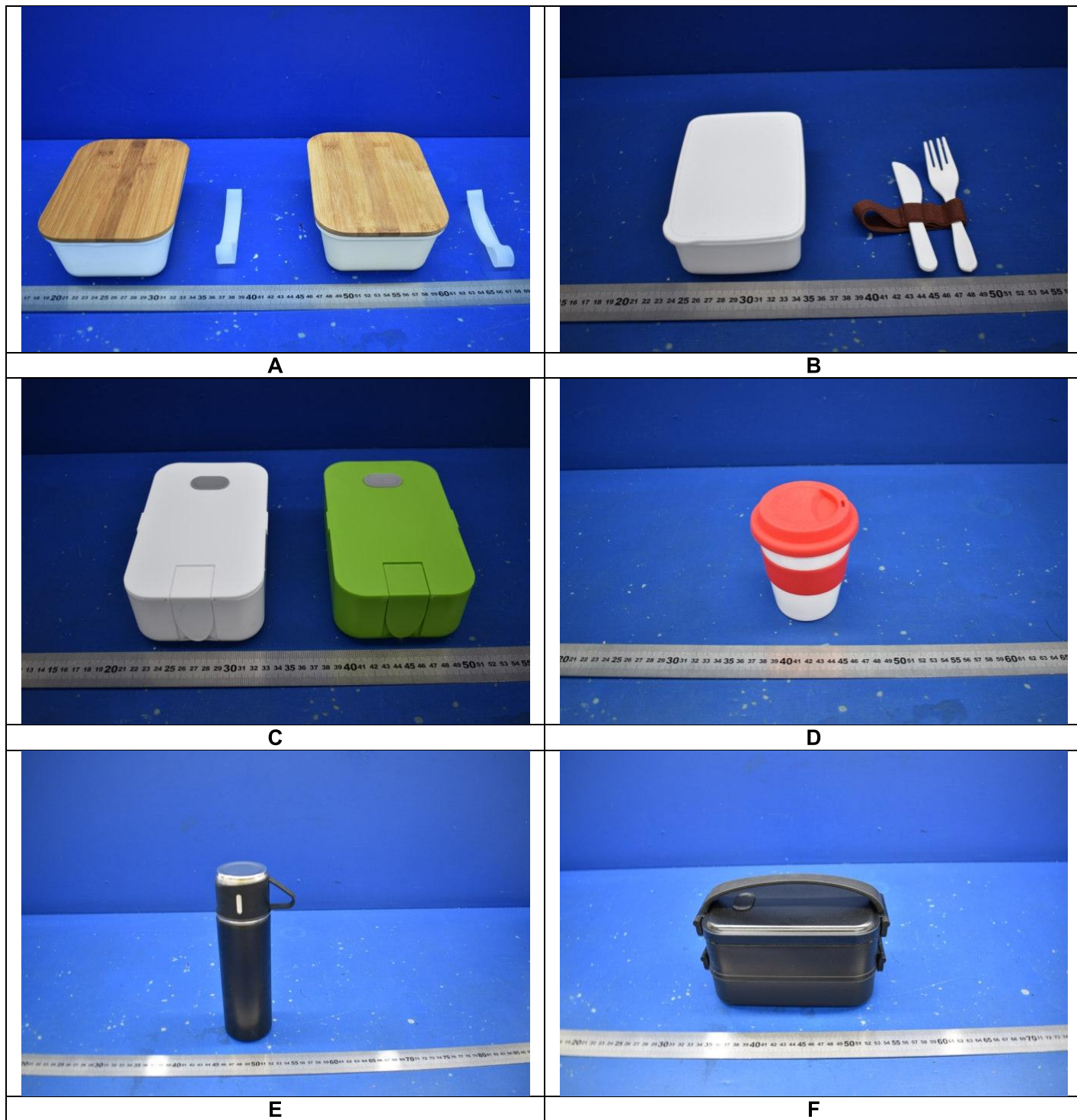
Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins Product Testing Service (Shanghai) Co., Ltd ensures that this 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 chinacomplaint@eurofins.com and referring to this report number.

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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
Joyce Liu
Operation Director

TEST SAMPLE PHOTO(S)



EFSH23042824-CG-01+Rev 3

TO BE CONTINUED

TEST SAMPLE PHOTO(S)



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EFSH23042824-CG-01+Rev 3

TO BE CONTINUED

REFERENCE SAMPLE PHOTO(S)



Note: 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

REFERENCE SAMPLE PHOTO(S)



Note: 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	Natural color bamboo lid	A
2	Semi-transparent silicone sealing ring	A,E,F
3	Red silicone lid	D
4	Grey silicone plug	C
5	White PP lunch box	A
6	White PP lunch box	B
7	White PP lunch box	C
8	Brown elastic band	B
9	Green PP lunch box	C
10	Black silicone air valve	F
11	Semi-transparent silicone sealing ring	E,F
12	Black TPR handle	E,F
13	Black PP lunch box	E,F
14	Grey PP inner lid	E
15	Silver stainless steel inner wall	E
16	Silver metal spring	E
17	White silicone sealing ring	G

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	5+6+7	8
Lead (Pb)	mg/kg	500	10	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result			
				10+11	12	13+14	15
Lead (Pb)	mg/kg	500	10	ND	78	ND	ND

Test Item(s)	Unit	Limit	MDL	Result	
				16	13
Lead (Pb)	mg/kg	500	10	16	13

Test Item(s)	Unit	Limit	MDL	Result	
				17	ND
Lead (Pb)	mg/kg	500	10	17	ND

Remark:

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

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	2+3+4	5+6+7	8
Cadmium (Cd)	mg/kg	100	5	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result			
				10+11	12	13+14	15
Cadmium (Cd)	mg/kg	100	5	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result
				16
Cadmium (Cd)	mg/kg	100	5	ND

Test Item(s)	Unit	Limit	MDL	Result
				17
Cadmium (Cd)	mg/kg	100	5	ND

Remark:

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

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		
					2+3+4	5+6+7	8
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

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					10+11	12	13+14
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

TO BE CONTINUED

TEST RESULT

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					17
Di-n-butyl phthalate (DBP)	84-74-2	%	-	0.005	ND
Benzylbutyl phthalate (BBP)	85-68-7	%	-	0.005	ND
Diethylhexyl phthalate (DEHP)	117-81-7	%	-	0.005	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	-	0.005	ND
Sum of DEHP, DBP, BBP, DIBP	-	%	0.1	-	ND
Di-n-octyl phthalate (DNOP)	117-84-0	%	-	0.005	ND
Diisononyl phthalate (DINP)	28553-12-0	%	-	0.005	ND
Diisodecyl phthalate (DIDP)	26761-40-0	%	-	0.005	ND
Sum of DNOP, DINP, DIDP	-	%	0.1	-	ND

Remarks:

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

MDL = method detection limit

ND = Not detected, less than MDL

"-"= Not Regulated

TO BE CONTINUED

TEST RESULT

Specific Migration of Formaldehyde

Test Request: To determine the specific migration of formaldehyde for compliance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, 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 UV-Vis/LC-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
Formaldehyde	50-00-0	mg/kg	15	1	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.

Pentachlorophenol (PCP) Content

Test Request: Pentachlorophenol and its salts and esters as specified in Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants as regards Annex I Part A.
 Test Method: With reference to EPA 3550C:2007, EPA 8270E:2018, solvent extraction and quantification by GC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					1
Pentachlorophenol (PCP)	87-86-5	mg/kg	5	0.5	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 German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, 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 ICP-MS.
 Simulant Used: 3% Acetic Acid
 Test Condition: 70° C 2h

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

TO BE CONTINUED

TEST RESULT

Test Item(s)	Unit	Limit	MDL	Result					
				4			5		
				1 st	2 nd	3 rd	1 st	2 nd	3 rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.05	ND	ND	ND	ND	ND	ND
Copper (Cu)	mg/kg	5	0.25	ND	ND	ND	ND	ND	ND
Iron (Fe)	mg/kg	48	0.25	ND	ND	ND	ND	ND	ND
Lithium (Li)	mg/kg	0.6	0.5	ND	ND	ND	ND	ND	ND
Manganese (Mn)	mg/kg	0.6	0.05	ND	ND	ND	ND	ND	ND
Zinc (Zn)	mg/kg	5	0.5	ND	ND	ND	ND	ND	ND
Aluminium (Al)	mg/kg	1	0.1	ND	ND	ND	ND	ND	ND
Nickel (Ni)	mg/kg	0.02	0.01	ND	ND	ND	ND	ND	ND
Antimony (Sb)	mg/kg	0.04	0.01	ND	ND	ND	ND	ND	ND
Arsenic (As)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND
Cadmium (Cd)	mg/kg	ND	0.002	ND	ND	ND	ND	ND	ND
Chromium (Cr)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND
Europium (Eu)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Gadolinium (Gd)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Lanthanum (La)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Terbium (Tb)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Sum of all lanthanide substances	mg/kg	0.05	-	ND	ND	ND	ND	ND	ND
Lead (Pb)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND
Mercury (Hg)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result					
				6			7		
				1 st	2 nd	3 rd	1 st	2 nd	3 rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.05	ND	ND	ND	ND	ND	ND
Copper (Cu)	mg/kg	5	0.25	ND	ND	ND	ND	ND	ND
Iron (Fe)	mg/kg	48	0.25	ND	ND	ND	ND	ND	ND
Lithium (Li)	mg/kg	0.6	0.5	ND	ND	ND	ND	ND	ND
Manganese (Mn)	mg/kg	0.6	0.05	ND	ND	ND	ND	ND	ND
Zinc (Zn)	mg/kg	5	0.5	ND	ND	ND	ND	ND	ND
Aluminium (Al)	mg/kg	1	0.1	ND	ND	ND	ND	ND	ND
Nickel (Ni)	mg/kg	0.02	0.01	ND	ND	ND	ND	ND	ND
Antimony (Sb)	mg/kg	0.04	0.01	ND	ND	ND	ND	ND	ND
Arsenic (As)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND
Cadmium (Cd)	mg/kg	ND	0.002	ND	ND	ND	ND	ND	ND
Chromium (Cr)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND
Europium (Eu)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Gadolinium (Gd)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Lanthanum (La)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Terbium (Tb)	mg/kg	-	0.01	ND	ND	ND	ND	ND	ND
Sum of all lanthanide substances	mg/kg	0.05	-	ND	ND	ND	ND	ND	ND
Lead (Pb)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND
Mercury (Hg)	mg/kg	ND	0.01	ND	ND	ND	ND	ND	ND

TO BE CONTINUED

TEST RESULT

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 for Plastic

Test Request: To determine the Overall Migration for compliance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31 with amendments and BfR recommendation and Commission Regulation (EU) No 10/2011 and its amendments.

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
Acetic Acid 3%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	<3.0	<3.0	<3.0
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					5		
					1 st	2 nd	3 rd
Acetic Acid 3%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	<3.0	<3.0	<3.0
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					6		
					1 st	2 nd	3 rd
Acetic Acid 3%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	<3.0	<3.0	<3.0
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					9		
					1 st	2 nd	3 rd
Acetic Acid 3%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	<3.0	<3.0	<3.0
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

TO BE CONTINUED

TEST RESULT

Simulant Used	Time	Temperature	Unit	Limit	Result		
					13		
					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
Oil	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					14		
					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
Oil	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 for Silicone

Test Requested : 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		
					2		
					1 st	2 nd	3 rd
Acetic Acid 3%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	<3.0	<3.0	<3.0
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

TO BE CONTINUED

TEST RESULT

Simulant Used	Time	Temperature	Unit	Limit	Result		
					3		
					1 st	2 nd	3 rd
Acetic Acid 3%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	<3.0	<3.0	<3.0
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					10		
					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
Oil	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					11		
					1 st	2 nd	3 rd
50% Ethanol	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Oil	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
3% Acetic Acid	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0

Simulant Used	Time	Temperature	Unit	Limit	Result		
					17		
					1 st	2 nd	3 rd
50% Ethanol	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
Oil	2h	70° C	mg/dm ²	10	<3.0	<3.0	<3.0
3% Acetic Acid	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 Bisphenol A

Test Request: To determine the specific migration of bisphenol A compliance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31 with amendments and BfR recommendation and 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

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

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					5		
					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		
					6		
					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		
					7		
					1 st	2 nd	3 rd
Bisphenol A	80-05-7	mg/kg	0.05	0.01	ND	ND	ND

TO BE CONTINUED

TEST RESULT

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					10		
					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		
					17		
					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.

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-MS.

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

Test Item(s)	CAS No.	Unit	MDL	Result		
				10	13	14
Bisphenol A	80-05-7	mg/kg	0.1	ND	ND	ND

Test Item(s)	CAS No.	Unit	MDL	Result
				17
Bisphenol A	80-05-7	mg/kg	0.1	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: 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
3	Absent	Absent
10	Absent	Absent
17	Absent	Absent

Volatile Organic Matter

Test Request: Volatile organic matter as specified in German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, BfR Recommendations XV for silicon rubber.

Test Method: With reference to Bestimmung von flüchtigen Verbindungen in Bedarfsgegenständen aus Silikon (stand: 03/2022)

Test Item(s)	Unit	Limit	MDL	Result	
				2	3
Volatile Organic Matter	%	0.5	0.1	ND	ND

Test Item(s)	Unit	Limit	MDL	Result	
				10	17
Volatile organic compound	%	0.5	0.1	ND	ND

Remark:

% = percentage of weight by weight

MDL = method detection limit

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					
				2			3		
				1 st	2 nd	3 rd	1 st	2 nd	3 rd
Tin (Sn)	mg/kg	0.1	0.01	ND	ND	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result		
				10		
				1 st	2 nd	3 rd
Tin (Sn)	mg/kg	0.1	0.01	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result		
				17		
				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 German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation.
 Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.
 Simulant Used: 3% Acetic Acid
 Test Condition: 2h at 70° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result					
					5			6		
					1 st	2 nd	3 rd	1 st	2 nd	3 rd
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND	ND	ND	ND

TO BE CONTINUED

TEST RESULT

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					g		
					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

TO BE CONTINUED

TEST RESULT

Test Item(s)	CAS No.	Unit	Limit	MDL	Result					
					13			14		
					1 st	2 nd	3 rd	1 st	2 nd	3 rd
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND	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 Release of Heavy Metals

Test Request: To determine specific release of heavy metals for compliance with CM/Res(2013)9 relating to metals and alloys used in food contact materials and articles.
 Test Method: With reference to CM/Res(2013)9 for sample preparation and test condition selection, analysis was performed by ICP-MS.
 Simulant Used: 0.5% Citric Acid
 Test Condition: 70° C 2h

Test Item(s)	Unit	MDL	Result			
			15			
			1 st + 2 nd Migration		3 rd Migration	
			Result	7xSRL* ²	Result	SRL* ¹
Aluminum (Al)	mg/kg	0.5	ND	35	ND	5
Antimony (Sb)	mg/kg	0.01	ND	0.28	ND	0.04
Chromium (Cr)	mg/kg	0.05	ND	1.75	ND	0.25
Cobalt (Co)	mg/kg	0.005	ND	0.14	ND	0.02
Copper (Cu)	mg/kg	0.5	ND	28	ND	4
Iron (Fe)	mg/kg	5	ND	280	ND	40
Manganese (Mn)	mg/kg	0.2	ND	12.6	ND	1.8
Molybdenum (Mo)	mg/kg	0.01	ND	0.84	ND	0.12
Nickel (Ni)	mg/kg	0.01	ND	0.98	ND	0.14
Silver (Ag)	mg/kg	0.01	ND	0.56	ND	0.08
Tin (Sn) * ³	mg/kg	5	ND	700	ND	100
Vanadium (V)	mg/kg	0.001	ND	0.07	ND	0.01
Zinc (Zn)	mg/kg	0.5	ND	35	ND	5
Arsenic (As)	mg/kg	0.0005	ND	0.014	ND	0.002
Barium (Ba)	mg/kg	0.1	ND	8.4	ND	1.2
Beryllium (Be)	mg/kg	0.001	ND	0.07	ND	0.01
Cadmium (Cd)	mg/kg	0.001	ND	0.035	ND	0.005
Lead (Pb)	mg/kg	0.001	ND	0.07	ND	0.01
Lithium (Li)	mg/kg	0.005	ND	0.336	ND	0.048
Mercury (Hg)	mg/kg	0.0005	ND	0.021	ND	0.003
Thallium (Tl)	mg/kg	0.00005	ND	0.0007	ND	0.0001
Magnesium (Mg)	mg/kg	0.1	ND	-	ND	-
Titanium (Ti)	mg/kg	0.1	ND	-	ND	-

TO BE CONTINUED

TEST RESULT

Test Item(s)	Unit	MDL	Result			
			16			
			1 st + 2 nd Migration		3 rd Migration	
			Result	7xSRL ^{*2}	Result	SRL ^{*1}
Aluminum (Al)	mg/kg	0.5	ND	35	ND	5
Antimony (Sb)	mg/kg	0.01	ND	0.28	ND	0.04
Chromium (Cr)	mg/kg	0.05	ND	1.75	ND	0.25
Cobalt (Co)	mg/kg	0.005	ND	0.14	ND	0.02
Copper (Cu)	mg/kg	0.5	ND	28	ND	4
Iron (Fe)	mg/kg	5	ND	280	ND	40
Manganese (Mn)	mg/kg	0.2	ND	12.6	ND	1.8
Molybdenum (Mo)	mg/kg	0.01	ND	0.84	ND	0.12
Nickel (Ni)	mg/kg	0.01	ND	0.98	ND	0.14
Silver (Ag)	mg/kg	0.01	ND	0.56	ND	0.08
Tin (Sn) ^{*3}	mg/kg	5	ND	700	ND	100
Vanadium (V)	mg/kg	0.001	ND	0.07	ND	0.01
Zinc (Zn)	mg/kg	0.5	ND	35	ND	5
Arsenic (As)	mg/kg	0.0005	ND	0.014	ND	0.002
Barium (Ba)	mg/kg	0.1	ND	8.4	ND	1.2
Beryllium (Be)	mg/kg	0.001	ND	0.07	ND	0.01
Cadmium (Cd)	mg/kg	0.001	ND	0.035	ND	0.005
Lead (Pb)	mg/kg	0.001	ND	0.07	ND	0.01
Lithium (Li)	mg/kg	0.005	ND	0.336	ND	0.048
Mercury (Hg)	mg/kg	0.0005	ND	0.021	ND	0.003
Thallium (Tl)	mg/kg	0.00005	ND	0.0007	ND	0.0001
Magnesium (Mg)	mg/kg	0.1	ND	-	ND	-
Titanium (Ti)	mg/kg	0.1	ND	-	ND	-

Remark:

- (1) mg/kg =milligram per kilogram
- (2) MDL = method detection limit
- (3) ND = not detected, less than MDL
- (4) SRL = Specific Release Limit
- (5) Test condition & simulant were specified by client.
- (6) *1 Compliance is established on the result from the third migration test for repeated used articles.
- (7) *2 Meantime, the sum of the results of the first and second tests should not exceed 7 times the SRL
- (8) *3 Except in field of application under Regulation (EC) No.1881/2006.(canned food container)

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		
					10+11	12	13+14
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

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					17
Benzo(a)anthracene	56-55-3	mg/kg	1	0.1	ND
Chrysene	218-01-9	mg/kg	1	0.1	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	1	0.1	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	1	0.1	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	1	0.1	ND
Benzo(a)pyrene	50-32-8	mg/kg	1	0.1	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1	0.1	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.1	ND

Remarks:

As per client's request, only the appointed materials have been tested.

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

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.		13			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

Testing Material No.		14			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 condition and material were specified by applicant.

- 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

Test condition :

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

Testing Material No.		13			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

Testing Material No.		14			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

- The test condition and material were specified by applicant.

- The test item is tested in Eurofins Internal laboratory.

TO BE CONTINUED

TEST RESULT

EN 12875-1: 2005 Mechanical dishwashing resistance of utensils-Part 1: Reference test method for domestic articles

1) Number of tested sample: 2 Pieces (Sample E,F)

2) Number of controlled sample: 2 Pieces

3) Test Procedure

Clause	Test item	Test methods
8.1	Preparation of test dish washer	When testing metal articles, after each regeneration of the ion exchanger with sodium chloride, run one test cycle(see 8.3) with no test specimens
8.2	Loading the test dishwasher	The test dishwasher shall be fully loaded, using dummy articles to fill excess capacity if necessary. Each specimen shall be placed in the appropriate basket making sure that the specimens will not come into contact with each other during testing. All surfaces shall be equally exposed to the water spray, and the specimens shall be positioned in a way that avoids the formation of water pools. It is permissible to simultaneously wash several different types of domestic articles of ceramic, glass, metal or plastics. Note The risk of interaction between different materials should be considered. Where there is such a risk, such specimens should not be tested together. If it is necessary to withdraw a test specimen during the test, it shall be replaced by a similar article.
8.3	Test cycle	The test cycle shall comprise the stages specified in EN 12875-1:2005
8.4	Parameter control	The parameters of the test cycle listed below shall be verified before starting the first test cycle and after every <u>10</u> th test cycles . as per client's request The temperature of the test is <u> 65 </u> °C.
8.5	Number of test cycles	Subject specimens to <u> 10 </u> test cycles, as per client's request

4) Test result:

EN 12875-2:2001 Mechanical dishwashing resistance of utensils-Part 2: Inspection of non-metallic articles

After 10 cycle(s)

Product No	Color	Gloss	Clouding	Resistant deposits and iridescent layers	Other aspects
E	0	0	-	0	0
F	0	0	-	0	0

Table 1 – Inspection criteria

Articles with or without decoration	Colour ⁽¹⁾	gloss	Clouding	Resistant deposits and iridescent layers ⁽²⁾	Other aspects
Ceramic tableware	+	+		+	+ ⁽³⁾ (4) (5)
Glass, glass ceramic ware	+	+	+ ⁽⁶⁾	+	+ (4) (5)

TO BE CONTINUED

TEST RESULT

Vitreous enameled tableware	+	+		+	+(3) (4) (5)
Plastic articles	+	+	+(6)	+	+(3)(7)

(+) = to be inspected

- (1) If several colours are present on one article to be inspected, the colour with the greatest change shall be chosen.
- (2) For the elimination of easily removable deposits.
- (3) e.g. crazing.
- (4) The adherence of decorations shall be tested by repeated wiping with a moist cloth under slight pressure.
- (5) Abrasion which is caused by friction during the dishwasher treatment shall be disregarded.
- (6) Transparent articles only
- (7) Swelling, deformation, cracking, or delamination

Table 2 – Evaluation of inspection criteria

Classification	Rating
0	No visible change
1	First discernible change
2	Clearly visible change

Remark:

The test was subcontracted to Eurofins Product Testing Service (Shanghai) Co., Ltd. Hangzhou Branch.

TO BE CONTINUED

TEST RESULT

Refer to EN 15284:2007 Materials and articles in contact with food stuffs- Test method for the: resistance to microwave heating of ceramic, glass, glass-ceramic or plastics cookware(as per client's request)

Number Of Tested Samples:	1 Piece of F
Sample Material:	plastic
Microwave power output:	700W
Short period time (for 72000 J):	102s
Long period (for 468000 J):	668s
Test Procedure:	<ol style="list-style-type: none"> 1. Apply a stain to the surface of the test specimen and wash clear. 2. Visually check that the surface is not damaged. Note any small faults prior to testing. 3. Except for articles made from glass or glass-ceramic, immerse the test specimen in water at a temperature of $(20 \pm 3) ^\circ\text{C}$ for one hour and then wipe the surface dry with a cloth. 4. Pour $(125 \pm 2, 5)$ ml of water into each water container and place at the back of the oven so as not to interfere with the turntable. 5. Place the test specimen at the centre of the turntable for the short heating period test. If electrical arcing begins IMMEDIATELY SWITCH OFF THE OVEN. Terminate the test and state in the test report that at the onset of electrical arcing the test was terminated. 6. After the cycle is completed, open the oven door and, if applicable, using the surface temperature measuring apparatus, find and record the highest temperature of the handle. When additional data is required, follow this procedure to find the highest surface temperature. Ensure that this process takes no longer than 45 s. 7. Immediately following 6 set the oven for the long period and restart. 8. After completion, when additional data is required, record the highest surface temperature (in no more than 45 s). Remove the test specimen from the oven and allow it to cool on an insulated surface to prevent thermal shock. 9. Apply stain to the test specimen and wash clear. 10. Visually inspect the test specimen for damage according to the criteria in Table 1. 11. Repeat the test using the different article shapes in the set.
Test Requirement:	<ol style="list-style-type: none"> 1. Record the highest temperature for each item tested in a set. 2. Record any damage that has occurred to individual items. 3. Record any arcing, temperature limits and damage. <ul style="list-style-type: none"> ● If arcing occurs (5), the article fails the test and is unsuitable for use in a microwave oven. ● The maximum surface temperature of handles after the short period heating (6) shall not exceed the following limit values: ceramic, glass-ceramic or glass: $56 ^\circ\text{C}$;

TO BE CONTINUED

TEST RESULT

	plastics: 60 °C. 4. If any damage occurs (according to the criteria in 10), the article fails the test and is unsuitable for use in a microwave oven.								
Test Result:	The maximum surface temperature of handle after the short period heating: <table border="1" style="margin-left: 20px;"> <tr> <th style="background-color: yellow;">Sample No.</th> <th style="background-color: yellow;">The maximum surface temperature:</th> </tr> <tr> <td>F</td> <td>28°C</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	Sample No.	The maximum surface temperature:	F	28°C				
	Sample No.	The maximum surface temperature:							
F	28°C								
	No any damage present after test No any arcing presented after test Visually Inspection Result: No Cracking Colour change Melting Deformation Charring were observed Suitability for re-use in a microwave oven								
Test Conclusion	Pass								

Remark:

1. Pass= No cracking listed in Table 1 were found.

Table 1 — Inspection criteria

Material	Cracking	Crazing	Scaling	Colour	Melting	Deformation	Suitability for re-use	Charring
Ceramic	+	+ ^a	+ ^b	+ ^c				
Glass, glass-ceramic	+		+ ^b	+ ^c				
Plastics	+			+ ^c	+ ^d	+	+ ^e	+

(+) = to be inspected
^a refers to the glaze
^b refers to on-glaze decoration
^c if several colours are present on one article to be inspected, the colour with the greatest change shall be chosen
^d article shall not be too soft to handle
^e article shall be washable and stain resistant

Remark:

The test was subcontracted to Eurofins Product Testing Service (Shanghai) Co., Ltd. Hangzhou Branch.

END OF THE REPORT