

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
<u>MODEL NO.</u>	: MO6240;MO6205;MO6254;MO6244;MO8078;MO6255
<u>SAMPLE RECEIVED DATE</u>	: 08-May-2023
<u>TURN AROUND TIME</u>	: 08-May-2023 to 16-May-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

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.

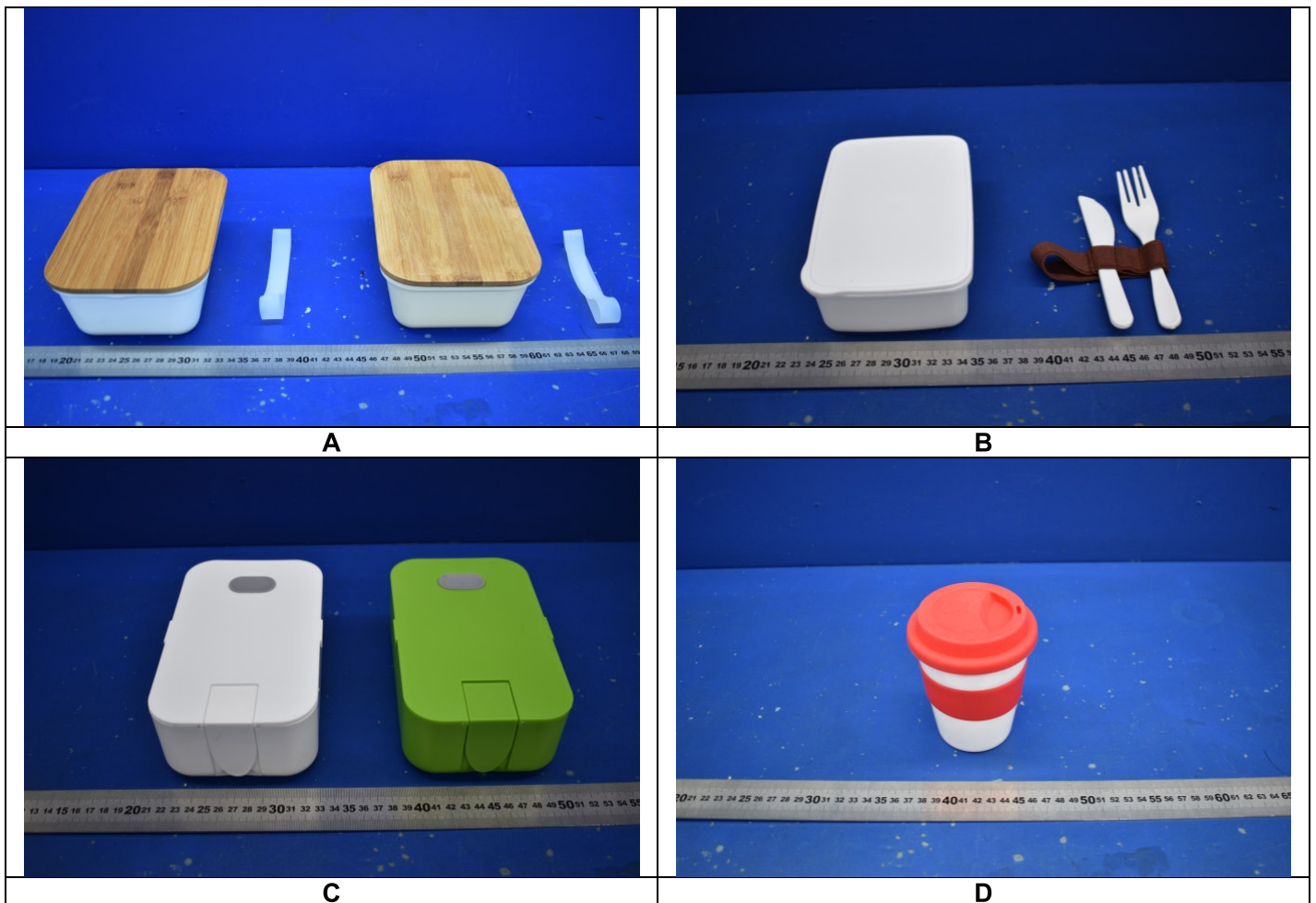


Eurofins (Shanghai) contact information**Customer service:** SunnyZhang@eurofins.com/ +86 216 1819 181**Sales specialist:** Jack.Zhang@cpt.eurofinscn.com/ +86 216 1819 181

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

Signed for and on behalf of
Eurofins Product Testing Service (Shanghai) Co., LtdConny Li
Assistant Lab Manager

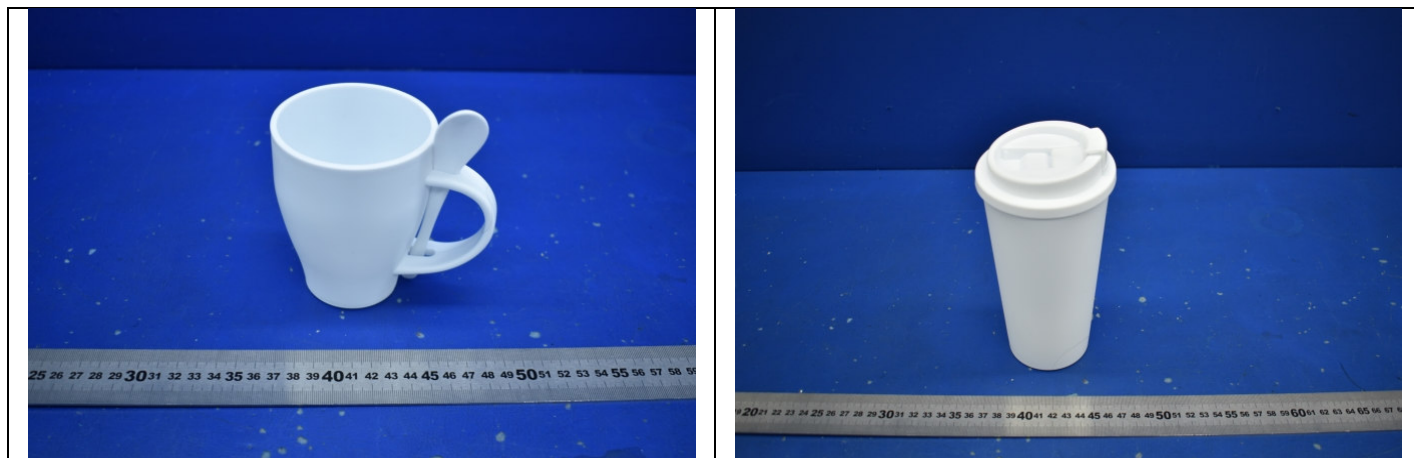
TEST SAMPLE PHOTO(S)



EFSH23042824-CG-01

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
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

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

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

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

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

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	4.0	3.6	<3.0
Isoctane	30min	40° C	mg/dm ²	10	4.2	<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	3.3	<3.0	<3.0
Ethanol 10%	2h	70° C	mg/dm ²	10	3.5	<3.0	<3.0
Ethanol 95%	2h	60° C	mg/dm ²	10	21.1	<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	14.2	10.4	<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	20.5	7.4	5.8
Isoctane	30min	40° C	mg/dm ²	10	<3.0	<3.0	<3.0

TO BE CONTINUED

TEST RESULT

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

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

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

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Test condition & simulant were specified by client.

END OF THE REPORT