TEST REPORT

Applicant	:	Ningbo Zhishuai Electrical Appliance Technology Co., Ltd.
Address	:	No. 158, Shatan Road, Xijie Village, Xinpu Town, Cixi City, Zhejiang Province
Sample description	:	ice maker
Item no.	:	ZSW-ZB13
Manufacturer	:	Ningbo Zhishuai Electrical Appliance Technology Co., Ltd
Sample received date	:	13 - Aug - 2025
Further information date	:	18 - Nov - 2025
Turn around time	:	21 - Aug - 2025 to 18 - Nov - 2025
Revised date	:	05 - Dec - 2025

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
Overall Migration	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No. 10/2011 and its amendments	Pass
Specific Migration of Heavy Metal	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No. 10/2011 and its amendments	Pass
Specific Migration of Primary Aromatic Amines	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No. 10/2011 and its amendments	Pass
Specific Migration of Bisphenol A	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No 10/2011 and its amendments and Regulation (EU) No. 2024/3190	Pass
Colorants Migration	LFGB, Section 30 and 31, and BfR recommendation.	Pass
Specific Release of Heavy Metals	LFGB, Section 30 and 31, European Directorate for the Quality of Medicines & Healthcare (EDQM)-Technical Guide on Metals and alloys used in food contact materials and articles (2nd Edition, 2024)	Pass
Sensorial Examination Odour and Taste Test	LFGB Section 30, 31 and BfR recommendation	Pass
Peroxide Value	LFGB Section 30, 31 and BfR recommendation	Pass
Chromium, Vanadium, Zirconium and Hafnium Content	LFGB Section 30, 31 and BfR recommendation	Pass
Volatile Organic Matter (VOM)	LFGB Section 30, 31 and BfR recommendation	Pass
Specific Migration of Acrylonitrile	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No. 10/2011 and its amendments	Pass
Total 1,3-Butadiene Content	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No. 10/2011 and its amendments	Pass
Specific Migration of 1,3-Butadiene	LFGB Section 30, 31 and BfR recommendation, Regulation (EU) No. 10/2011 and its amendments	Pass

Remark:
This report cancels and supersedes report number EFHZ25082229-CG-01 issued on Nov 18, 2025.
Modification description: Per client's request, add manufacturer and reference photos in the revised report.

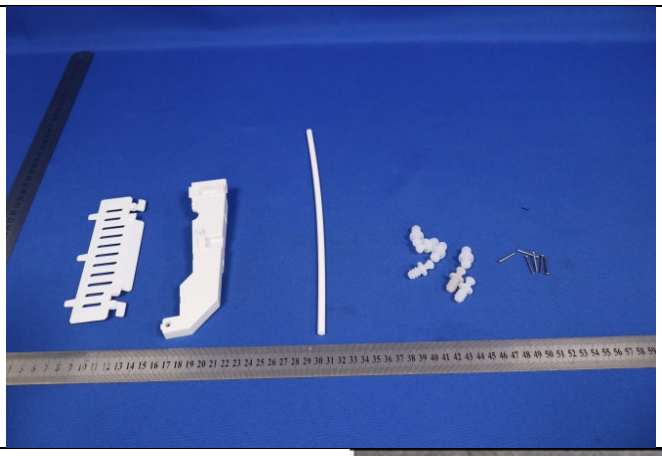
Eurofins（Hangzhou）contact information
Customer service: Zoey.Huang@cpt.eurofinscn.com/ +86 571 87203730
Sales specialist: Coco.Wang@cpt.eurofinscn.com/ +86 15990276205

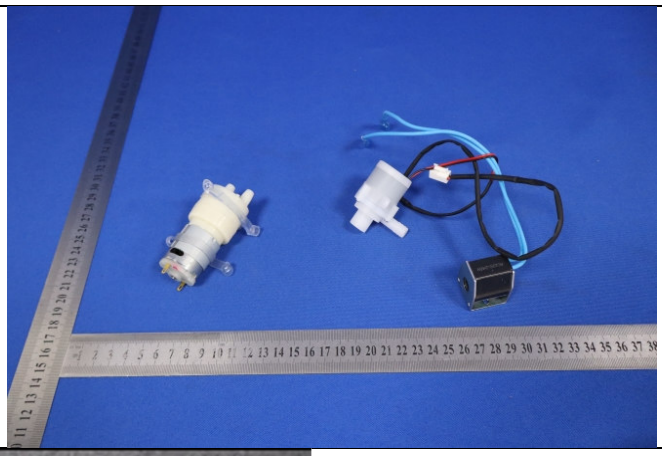
********** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) **********

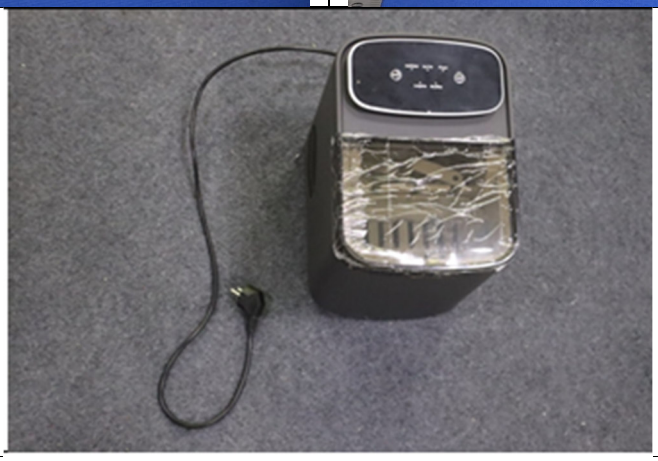
Signed for and on behalf of
Eurofins Product Testing Service (Hangzhou) Co., Ltd

Lincoln Shi
Operation Manager

SAMPLE PHOTO(S)







A

EFHZ25082229-CG-01+Rev1

TO BE CONTINUED

REFERENCE SAMPLE PHOTO(S)

The reference samples have not been tested in current report, but according to customer's request, the pictures have also been included. For sample tested in current report, please refer to "Sample photo".

TO BE CONTINUED

REFERENCE SAMPLE PHOTO(S)

The reference samples have not been tested in current report, but according to customer's request, the pictures have also been included. For sample tested in current report, please refer to "Sample photo".

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	White PP（hollow plastic board）	A
2	Beige PP（water pump）	A
3	White PP（water pump）	A
4	Milk white ABS（board）	A
5	White PE pipe	A
6	Semi-transparent silicone plug	A
7	Silver stainless steel pin	A

TO BE CONTINUED

TEST RESULT

Overall Migration

Test Request: In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation, Commission Regulation (EU) No. 10/2011 and its amendments.

Test Method: With reference to EN1186-1:2002 for selection of conditions and test methods;

EN1186-3:2022 overall migration in evaporable simulants by total immersion method.

Simulant Used	Time	Temperature	Unit	Limit	Result 1		
					1st	2nd	3rd
Ethanol 10%	10d	20° C	mg/dm²	10	4.6	ND	ND
Acetic Acid 3%	10d	20° C	mg/dm²	10	ND	ND	ND

Simulant Used	Time	Temperature	Unit	Limit	Result 2		
					1st	2nd	3rd
Ethanol 10%	10d	20° C	mg/dm²	10	ND	ND	ND
Acetic Acid 3%	10d	20° C	mg/dm²	10	ND	ND	ND

Simulant Used	Time	Temperature	Unit	Limit	Result 3		
					1st	2nd	3rd
Ethanol 10%	10d	20° C	mg/dm²	10	ND	ND	ND
Acetic Acid 3%	10d	20° C	mg/dm²	10	ND	ND	ND

Simulant Used	Time	Temperature	Unit	Limit	Result 4		
					1st	2nd	3rd
Ethanol 10%	10d	20° C	mg/dm²	10	ND	ND	ND
Acetic Acid 3%	10d	20° C	mg/dm²	10	ND	ND	ND

Simulant Used	Time	Temperature	Unit	Limit	Result 5		
					1st	2nd	3rd
Ethanol 10%	10d	20° C	mg/dm²	10	ND	ND	ND
Acetic Acid 3%	10d	20° C	mg/dm²	10	ND	ND	ND

Remark:

ND = not detected, less than 3.0 mg/dm²
mg/dm² = milligram per square decimeter
Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metal

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

Test Method: With reference to Regulation (EU) 10/2011 for selection of test condition and EN 13130-1:2004 for test preparation method; analysis was performed by ICP-MS.

Simulant Used: Acetic Acid 3%

Test Condition: 30mins at 20° C

Test Item(s)	Unit	Limit	MDL	Result					
				1			2		
				1st	2nd	3rd	1st	2nd	3rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.01	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 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					
				3			4		
				1st	2nd	3rd	1st	2nd	3rd
Barium (Ba)	mg/kg	1	0.25	ND	ND	ND	ND	ND	ND
Cobalt (Co)	mg/kg	0.05	0.01	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	0.8	ND	ND
Aluminium (Al)	mg/kg	1	0.1	ND	ND	ND	0.4	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 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		
				5		
				1st	2nd	3rd
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 (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 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 Primary Aromatic Amines

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

Test Method: With reference to EN 13130-1:2004, analysis was performed by LC-MS/MS.

Simulant Used: Acetic Acid 3%

Test Condition: 30mins at 20° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result					
					1			2		
					1st	2nd	3rd	1st	2nd	3rd
m-Phenylenediamine	108-45-2	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2-Naphthylamine	91-59-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
3,3´-dichlorobenzidine	91-94-1	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-Dianisidine	119-90-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-Tolidine	119-93-7	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-Methylene-bis-2-chloroaniline	101-14-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-diamino-3,3-dimethyldiphenylmethane	838-88-0	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-aminoazobenzene	60-09-3	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-Chloroaniline	106-47-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-chloro-2-methylaniline	95-69-2	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND

TO BE CONTINUED

TEST RESULT

2,4-diaminoanisole	615-05-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2,4-diaminotoluene	95-80-7	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2-methyl-5-nitroaniline	99-55-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
Benzidine	92-87-5	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-Aminoazotoluene	97-56-3	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-anisidine	90-04-0	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-toluidine	95-53-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
p-Phenylenediamine	106-50-3	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,4-Dimethylaniline	95-68-1	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,6-Dimethylaniline	87-62-7	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
Aniline	62-53-3	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,2'-methylenedianiline	6582-52-1	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,4'-methylenedianiline	1208-52-2	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
Total of other primary aromatic amines	-	mg/kg	0.01	-	ND	ND	ND	ND	ND	ND

TO BE CONTINUED

TEST RESULT

Test Item(s)	CAS No.	Unit	Limit	MDL	Result					
					3			4		
					1st	2nd	3rd	1st	2nd	3rd
m-Phenylenediamine	108-45-2	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2-Naphthylamine	91-59-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
3,3´-dichlorobenzidine	91-94-1	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-Dianisidine	119-90-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-Tolidine	119-93-7	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-Methylene-bis-2-chloroaniline	101-14-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-diamino-3,3-dimethyldiphenylmethane	838-88-0	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-aminoazobenzene	60-09-3	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-Chloroaniline	106-47-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
4-chloro-2-methylaniline	95-69-2	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2,4-diaminoanisole	615-05-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2,4-diaminotoluene	95-80-7	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
2-methyl-5-nitroaniline	99-55-8	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
Benzidine	92-87-5	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-Aminoazotoluene	97-56-3	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND

TO BE CONTINUED

TEST RESULT

o-anisidine	90-04-0	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
o-toluidine	95-53-4	mg/kg	Not Detectable	0.002	ND	ND	ND	ND	ND	ND
p-Phenylenediamine	106-50-3	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,4-Dimethylaniline	95-68-1	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,6-Dimethylaniline	87-62-7	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
Aniline	62-53-3	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,2'-methylenedianiline	6582-52-1	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
2,4'-methylenedianiline	1208-52-2	mg/kg	-	0.002	ND	ND	ND	ND	ND	ND
Total of other primary aromatic amines	-	mg/kg	0.01	-	ND	ND	ND	ND	ND	ND

TO BE CONTINUED

TEST RESULT

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					5		
					1st	2nd	3rd
m-Phenylenediamine	108-45-2	mg/kg	Not Detectable	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	Not Detectable	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	Not Detectable	0.002	ND	ND	ND
2-Naphthylamine	91-59-8	mg/kg	Not Detectable	0.002	ND	ND	ND
3,3´-dichlorobenzidine	91-94-1	mg/kg	Not Detectable	0.002	ND	ND	ND
o-Dianisidine	119-90-4	mg/kg	Not Detectable	0.002	ND	ND	ND
o-Tolidine	119-93-7	mg/kg	Not Detectable	0.002	ND	ND	ND
4,4-Methylene-bis-2-chloroaniline	101-14-4	mg/kg	Not Detectable	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	Not Detectable	0.002	ND	ND	ND
4,4-diamino-3,3-dimethyldiphenylmethane	838-88-0	mg/kg	Not Detectable	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	Not Detectable	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	Not Detectable	0.002	ND	ND	ND
4-aminoazobenzene	60-09-3	mg/kg	Not Detectable	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	Not Detectable	0.002	ND	ND	ND
4-Chloroaniline	106-47-8	mg/kg	Not Detectable	0.002	ND	ND	ND
4-chloro-2-methylaniline	95-69-2	mg/kg	Not Detectable	0.002	ND	ND	ND
2,4-diaminoanisole	615-05-4	mg/kg	Not Detectable	0.002	ND	ND	ND
2,4-diaminotoluene	95-80-7	mg/kg	Not Detectable	0.002	ND	ND	ND
2-methyl-5-nitroaniline	99-55-8	mg/kg	Not Detectable	0.002	ND	ND	ND
Benzidine	92-87-5	mg/kg	Not Detectable	0.002	ND	ND	ND
o-Aminoazotoluene	97-56-3	mg/kg	Not Detectable	0.002	ND	ND	ND

TO BE CONTINUED

TEST RESULT

o-anisidine	90-04-0	mg/kg	Not Detectable	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	Not Detectable	0.002	ND	ND	ND
p-Phenylenediamine	106-50-3	mg/kg	-	0.002	ND	ND	ND
2,4-Dimethylaniline	95-68-1	mg/kg	-	0.002	ND	ND	ND
2,6-Dimethylaniline	87-62-7	mg/kg	-	0.002	ND	ND	ND
Aniline	62-53-3	mg/kg	-	0.002	ND	ND	ND
2,2'-methylenedianiline	6582-52-1	mg/kg	-	0.002	ND	ND	ND
2,4'-methylenedianiline	1208-52-2	mg/kg	-	0.002	ND	ND	ND
Total of other primary aromatic amines	-	mg/kg	0.01	-	ND	ND	ND

Remark:
Total of other primary aromatic amines are p-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), 2,2'-methylenedianiline(CAS No.:6582-52-1), 2,4'-methylenedianiline(CAS No.:1208-52-2).
mg/kg = milligram per kilogram
ND = not detected, less than MDL
MDL = method detection limit
Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Bisphenol A

Test Request: To determine Specific Migration of Bisphenol A in accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation, Commission Regulation (EU) No 10/2011 and its amendments and Regulation (EU) 2024/3190.

Test Method: With reference to EN 13130-1:2004, CEN/TS 13130-13:2005, analysis was performed by LC-MS/MS

Simulant Used: Acetic Acid 3%

Test Condition: 30mins at 20° C

Test Item(s)	Unit	Limit	MDL	Result					
				1			2		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	µg/kg	Not Detected	1	ND	ND	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result					
				3			4		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	µg/kg	Not Detected	1	ND	ND	ND	ND	ND	ND

Test Item(s)	Unit	Limit	MDL	Result					
				5			6		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	µg/kg	Not Detected	1	ND	ND	ND	ND	ND	ND

Remark:
µg/kg = microgram per kilogram
ND = not detected, less than MDL
MDL = method detection limit
Test condition & simulant were specified by client

TO BE CONTINUED

TEST RESULT

Colorants Migration

Test Request: In accordance 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 24th Communication on the testing of plastics, Bundesgesundheitsblatt 15 (1972) 285.

Simulant Used	Time	Temperature	Unit	Limit	Result 1
Distilled water	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
2% Acetic acid	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
10% Ethanol	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
Coconut oil	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible

Simulant Used	Time	Temperature	Unit	Limit	Result 2
Distilled water	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
2% Acetic acid	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
10% Ethanol	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
Coconut oil	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible

TO BE CONTINUED

TEST RESULT

Simulant Used	Time	Temperature	Unit	Limit	Result
					3
Distilled water	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
2% Acetic acid	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
10% Ethanol	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
Coconut oil	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible

Simulant Used	Time	Temperature	Unit	Limit	Result
					4
Distilled water	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
2% Acetic acid	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
10% Ethanol	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
Coconut oil	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible

TO BE CONTINUED

TEST RESULT

Simulant Used	Time	Temperature	Unit	Limit	Result
					5
Distilled water	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
2% Acetic acid	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
10% Ethanol	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
Coconut oil	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible

Simulant Used	Time	Temperature	Unit	Limit	Result
					6
Distilled water	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
2% Acetic acid	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
10% Ethanol	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible
Coconut oil	5h	50 ℃	NO UNIT	No visible color migration to foodstuffs	No visible

Remark:

Test is not applicable to transparent material or white material

TO BE CONTINUED

TEST RESULT

Specific Release of Heavy Metals

Test Request: To determine specific release of heavy metals in accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, European Directorate for the Quality of Medicines & Healthcare (EDQM)- Technical Guide on Metals and alloys used in food contact materials and articles (2nd Edition,2024).

Test Method: With reference to European Directorate for the Quality of Medicines & Healthcare (EDQM)-Technical Guide on Metals and alloys used in food contact materials and articles (2nd Edition, 2024) for sample preparation and JRC Guidelines on testing conditions for kitchenware articles in contact with foodstuffs for test condition selection, analysis was performed by ICP-MS.

Simulant Used: 0.5% Citric acid

Test Condition: 30mins at 20° C

Test Item(s)	Unit	MDL	Result			
			7			
			1st + 2nd Migration		3rd 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	7	ND	1
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	0.01	0.01	0.49/3.85*4	ND	0.07/0.55*4
Molybdenum (Mo)	mg/kg	0.01	ND	0.84	ND	0.12
Nickel (Ni)	mg/kg	0.01	0.01	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
Zirconium (Zr)	mg/kg	0.1	ND	14	ND	2
Arsenic (As)	mg/kg	0.0005	0.0006	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	0.0002	ND	0.007	ND	0.001
Magnesium (Mg)	mg/kg	0.1	ND	-	ND	-
Titanium (Ti)	mg/kg	0.1	ND	-	ND	-

Remark:
mg/kg =milligram per kilogram
MDL = method detection limit
ND = not detected (<MDL)

TO BE CONTINUED

TEST RESULT

SRL = Specific Release Limit
*1 Compliance is established on the result from the third migration test for repeated used articles.
*2 Meantime, the sum of the results of the first and second tests should not exceed 7 times the SRL
*3 Except in field of application under Commission Regulation (EU) 2023/915
*4 SRL:0.07 mg/kg and 7xSRL:0.49 mg/kg particularly for materials and articles intended for contact with milk, milk products and other non-alcoholic drinks as well as any food especially intended for infants and toddlers; SRL:0.55 mg/kg and 7xSRL:3.85 mg/kg for the others.
Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Sensorial Examination Odour and Taste Test

Test Request:	In accordance 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 DIN 10955:2024 No. of panelist: 6
Odour Test Condition	24h at 23±2° C
Taste Test Substance	Distilled water
Taste Test Condition	30mins at 20° C

Test Item(s)	Limit	Result
		A
Sensorial examination odour (Point scale)	2.5	0.0
Sensorial examination taste (Point scale)	2.5	0.0

Remarks:
Scale evaluation:
0: No perceptible odour/taste
1: Odour/taste just perceptible (still difficult to define)
2: Moderate odour/taste
3: Moderately strong odour/taste
4: Strong odour/taste

TO BE CONTINUED

TEST RESULT

Peroxide Value

Test Request: In accordance 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 European pharmacopoeia, 9.0 part 2.5.5. Peroxide Value method A.

Test Item(s)	Unit	Limit	Result			
			1	2	3	4
Peroxide Value	NO UNIT	Absent	Absent	Absent	Absent	Absent

Test Item(s)	Unit	Limit	Result	
			5	6
Peroxide Value	NO UNIT	Absent	Absent	Absent

TO BE CONTINUED

TEST RESULT

Chromium, Vanadium, Zirconium and Hafnium Content

Test Request: In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation.

Test Method: Acid digestion, followed by analysis using ICP-OES

Test Item(s)	Unit	Limit	MDL	Result			
				1	2	3	5
Total Chromium (Cr)	mg/kg	10	5	ND	ND	ND	ND
Total Vanadium (V)	mg/kg	20	20	ND	ND	ND	ND
Total Zirconium (Zr)	mg/kg	100	20	ND	ND	ND	ND
Total Hafnium (Hf)	mg/kg	100	20	ND	ND	ND	ND

Remark:
mg/kg = milligram per kilogram
MDL = method detection limit
ND = not detected (<MDL)

TO BE CONTINUED

TEST RESULT

Volatile Organic Matter (VOM)

Test Request: In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation.
For material: Styrene Copolymers and Graft Polymers, and Mixtures of Polystyrene with other Polymers.

Test Method: With reference to 48th Communication on the testing of plastics, Bundesgesundheitsblatt 25 (1982) 334.

Test Item(s)	Unit	Limit	MDL	Result
				4
Volatile Organic Matter (VOM)	mg/dm^2	15	1.0	9.8

Remark:
Test Condition: 90℃, 24 hours
mg/dm^2 = milligram per square decimeter
MDL = method detection limit
ND = not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Specific Migration of Acrylonitrile

Test Request:	To determine the Specific Migration of Acrylonitrile in accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation, Commission Regulation (EU) No. 10/2011 and its amendments.
Test Method:	With reference to EN 13130-1:2004, EN 13130-3:2004, analysis was performed by HD-GC-MS.
Simulant Used:	Acetic Acid 3%
Test Condition:	30mins at 20° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					4		
					1st	2nd	3rd
Acrylonitrile	107-13-1	mg/kg	Not Detectable	0.01	ND	ND	ND

Remark:
mg/kg = milligram per kilogram
ND = not detected, less than MDL
MDL = method detection limit
Test condition & simulant were specified by client

TO BE CONTINUED

TEST RESULT

Total 1,3-Butadiene Content

Test Request: To determine the Total 1,3-Butadiene Content in accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation, Commission Regulation (EU) No. 10/2011 and its amendments.

Test Method: With reference to EN 13130-4:2004, analysis was performed by GC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					4
1,3-Butadiene	106-99-0	mg/kg	1	0.1	ND

Remarks:
mg/kg = milligram per kilogram
ND = not detected, less than MDL
MDL = method detection limit

TO BE CONTINUED

TEST RESULT

Specific Migration of 1,3-Butadiene

Test Request:	To determine Specific Migration of Butadiene in accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation, Commission Regulation (EU) No. 10/2011 and its amendments.
Test Method:	With reference to EN 13130-1:2004, CEN/TS 13130-15:2005, analysis was performed by GC-MS.
Simulant Used:	Acetic Acid 3%
Test Condition:	30mins at 20° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					4		
					1st	2nd	3rd
1,3-Butadiene	106-99-0	mg/kg	Not Detectable	0.01	ND	ND	ND

Remark:
mg/kg = milligram per kilogram
ND = not detected, less than MDL
MDL = method detection limit
Test condition & simulant were specified by client.

END OF THE REPORT