TEST REPORT

APPLICANT	:	ZHEJIANG RUIYUAN INDUSTRY TRADING CO., LTD
ADDRESS	:	186 MEILONG ROAD, NEW DISTRICT OF YONGKANG CITY, ZHEJIANG, CHINA
SAMPLE DESCRIPTION	:	Hamburger press
MODEL NO.	:	FK8011/05412200651
MATERIAL NO.	:	Aluminum alloy with non stick coating
SUPPLIER	:	ZHEJIANG RUIYUAN INDUSTRY TRADING CO., LTD
BUYER	:	LANDMANN Germany GmbH
COUNTRY OF ORIGIN	:	China
COUNTRY OF DESTINATION	:	Germany, EU
PRODUCT MATERIAL	:	Aluminum alloy
SAMPLE RECEIVED DATE	:	11-Dec-2023
FURTHER INFORMATION DATE	:	29-Dec-2023
TURN AROUND TIME	:	11-Dec-2023 to 04-Jan-2024

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

TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Sensorial Examination Odour and Taste Test	LFGB Section 30 and 31	Pass
Overall Migration	LFGB Section 30 and 31	Pass
Specific Migration of Formaldehyde	LFGB Section 30 and 31, BfR Recommendations LI	Pass
Specific Migration of Primary Aromatic Amines	LFGB Section 30 and 31, BfR Recommendations LI	Pass
Specific Migration of Phenolic Substances (as Phenol)	LFGB Section 30 and 31, BfR Recommendations LI	Pass
Specific Migration of Chromium VI and Chromium III	LFGB Section 30 and 31, BfR Recommendations LI	Pass
Specific Migration of Heavy Metal	LFGB Section 30 and 31	Pass

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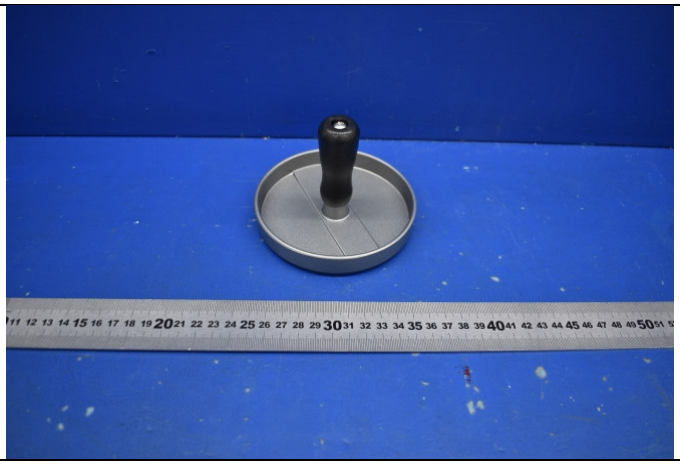
********** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) **********

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

Shen Wei Qiang, Louis
Manager, Analytical Division

SAMPLE PHOTO(S)



A

EFW524010539-T-01

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	Silver aluminum alloy with grey coating	A

TO BE CONTINUED

TEST RESULT

Sensorial Examination Odour and Taste Test

Test Request: German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendations.
Test Method: Refer to DIN 10955:2023, number of panelist: 6
Simulant Used: Distilled Water
Test Condition: 95° C 60min

Test Item(s)	Unit	Limit	Result
			A
Off-Taste	NO UNIT	2.5	0

Simulant Used: Distilled Water
Test Condition: 2h at 100℃

Test Item(s)	Unit	Limit	Result
			A
Off-Odour	NO UNIT	2.5	0

Remark:
Result Interpretation:
0: no perceptible off-odour / off-taste
1: off-odour / off-taste just perceptible
2: slight off-odour / off-taste
3: distinct off-odour / off-taste
4: strong off-odour / off-taste

TO BE CONTINUED

TEST RESULT

Overall Migration

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		
					1		
					1st	2nd	3rd
3% Acetic Acid	2h	100° C	mg/dm²	10	<3.0	<3.0	<3.0
10% Ethanol	2h	100° C	mg/dm²	10	<3.0	<3.0	<3.0
95% Ethanol	6h	60° C	mg/dm²	10	16.8	6.6	4.3
Isoctane	4h	60° C	mg/dm²	10	7.6	5.7	<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 Formaldehyde

Test Request: Specific migration of formaldehyde as specified in German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, BfR Recommendations LI for temperature resistant polymer coating systems for frying, cooking and baking utensils.

Test Method: According to BfR Recommendations LI for sample preparation, analysis was performed by UV-Vis.

Simulant Used: Acetic Acid 3%

Test Condition: 90min at 95° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					1
Formaldehyde	50-00-0	mg/kg	15	1	ND

Simulant Used: Ethanol 95%

Test Condition: 5h at 60° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					1
Formaldehyde	50-00-0	mg/kg	15	1	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, BfR Recommendations LI for temperature resistant polymer coating systems for frying, cooking and baking utensils.
Test Method: According to BfR Recommendations LI for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.
Simulant Used: Acetic Acid 3%
Test Condition: 90min at 95° C

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

Test Request:	Specific migration of phenolic substances (as phenol) as specified in German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, BfR Recommendations LI for temperature resistant polymer coating systems for frying, cooking and baking utensils.
Test Method:	According to BfR Recommendations LI for sample preparation, analysis was performed by LC-MS/MS.
Simulant Used:	Acetic Acid 3% (for baking)
Test Condition:	90min at 95° C

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					1
Phenol	108-95-2	mg/dm^2	0.05	0.05	ND

Remark:
mg/dm^2 = milligram per square decimetre
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 Chromium VI and Chromium III

Test Request: Specific migration of chromium VI and chromium III as specified in German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, BfR Recommendations LI for temperature resistant polymer coating systems for frying, cooking and baking utensils.

Test Method: According to BfR Recommendations LI for sample preparation, analysis was performed by ICP-MS.

Simulant Used: Acetic Acid 3% (for baking)

Test Condition: 90min at 95° C

Test Item(s)	Unit	Limit	MDL	Result
				1
Chromium VI (Cr VI)	mg/dm^2	Not Detected	0.02	ND
Chromium III (Cr III)	mg/dm^2	0.02	0.02	ND

Remark:
mg/dm^2 = milligram per square decimetre
MDL = method detection limit
ND = Not detected, less than MDL
Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metal

Test Request: Specific migration of heavy metal as specified in 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: 10% Ethanol

Test Condition: 2h at 100° C

Test Item(s)	Unit	Limit	MDL	Result		
				1		
				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 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

END OF THE REPORT