



## ATTESTATION of conformity with European Directives

**Product:** Milk frother

**Reference :** MMF-9106-FX (F=A, B which stands for different cup, X=1, 2, 3 stands for different handle)

**Trade mark:** --

**Issued to :** Guang Dong Master Electrical Appliance Co., Ltd.

**Address:** B1-11-01, Xincheng Industry Park, Xincheng Town, Xinxing County, 527400, Yunfu City, Guangdong Province, China

**Manufacturer:** Guang Dong Master Electrical Appliance Co., Ltd.

**Technical characteristics:** 220-240V~, 50/60Hz, 550W, Class II

The submitted sample of the above equipment has been tested for **CE** marking according to following European Directive and following standards:

### Electromagnetic Compatibility Directive 2014/30/EU

Standards	Report number	Report date
EN 55014-1:2017+A11:2020 EN 55014-2:2015 EN IEC 61000-3-2: 2019 EN 61000-3-3:2013+A1:2019	ARTL-EGZ-P21040225	Sep.15, 2021

The referred test report(s) show that the product complies with standard(s) recognized as giving presumption of compliance with the essential requirements in the specified European Directive

This verification does not imply assessment of the production of the product  
The **CE** marking may be affixed if all relevant and effective European Directives with **CE** are applicable

Guangzhou, Sep.30, 2021



  
 Linda Cheng  
 Project Engineer

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## ATTESTATION of conformity with European Directives

*Product:* Milk Frother

*Reference:* MMF-9106-FX (F=A, B which stands for different cup, X=1, 2, 3 stands for different handle)

*Issued to:* Guang Dong Master Electrical Appliance Co.,Ltd

*Address:* B1-11-01, Xincheng Industry Park, Xincheng Town, Xinxing County, 527400, Yunfu City, Guangdong Province, China.

*Manufacturer:* Guang Dong Master Electrical Appliance Co.,Ltd

*Technical characteristics:* 220-240 V, 50/60 Hz, 550W, Class II

The submitted sample of the above equipment has been tested for **CE** marking according to following European Directive and following standards:

- Low Voltage Directive 2014/35/EU

Standards	Report number	Report date
- EN 60335-2-15:2016 + A11:2018	ARTL-EGZ-P21040224	September 24, 2021
- EN 60335-1:2012+A11:2014+		
A13:2017+ A1:2019+A14:2019+		
A2:2019		
- EN 62233:2008		

The referred test report(s) show that the product complies with standard(s) recognized as giving presumption of compliance with the essential requirements in the specified European Directive

This verification does not imply assessment of the production of the product  
The **CE** marking may be affixed if all relevant and effective European Directives with **CE** are applicable

Guangzhou, September 24, 2021



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# TEST REPORT

LAB NO. : (9321)230-0366  
DATE : Aug 18, 2021  
PAGE : 1 OF 55

**APPLICANT** : **GUANGDONG MASTER ELECTRICAL APPLIANCE CO., LTD**  
B1-11-01, XINCHENG INDUSTRY PARK, XINCHENG TOWN,  
XINXING COUNTY, 527400, YUNFU CITY, GUANGDONG  
PROVINCE, CHINA.

**CONTACT PERSON** : ZHAO JIN CHENG

**DATE OF SUBMISSION** : Aug 18, 2021

**TEST PERIOD** : Aug 18, 2021 to Aug 18, 2021

**SAMPLE DESCRIPTION** : AS PER IMAGE:COMPONENT

Color: /

Style no. / Model no.: See the list

P.O. No.: /

Country of Origin: /

Country of Destination: /

**MANUFACTURER** : /

**OVERALL CONCLUSION** : The sample(s) meet the respective requirements for the below tested items as stated in German § 30 and 31 LFGB (Food and Feed Code) for materials in contact with foodstuffs.

RW

**Bureau Veritas Consumer Products Services  
(Guangzhou) Co., Ltd**  
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Type designation 型号:	<p>Electric coffee makers:          MTKT-1001, MTKT-1002, MTKT-1003, MTKT-1004, MTKT-1005, MTKT-1006, MTKT-1007, MTKT-1008, MTKT-1009,</p> <p>Automatic powder &amp; water mixer dispenser          MFM-001, MFM-002, MFM-003, MFM-004, MFM-005, MFM-006, MFM-007, MFM-008, MFM-009, MFM-010,</p> <p>Coffee mill:          MGC-001, MGC-002, MGC-003, MGC-004, MGC-005, MGC-006, MGC-BX01, MGC-BX03, MGC-05, MGC-009, MGC-010</p> <p>Electric kettle:          MTS001, MTS002, MTS003, MTS004, MTS005, MTS006, MTS-0502, MTS-0502A, MTS-0603, MTS-0604, MTS-0605, MTS-0606, MTS-0607, MTS-0608, MTS-0609, MTS-0801, MTS-0802, MTS-0803, MTS-0804, MTS-0805, MTS-0806, MTS-0807, MTS-0808, MTS-1000, MTS-1001, MTS-1002, MTS-1201, MTS-1202</p> <p>Ice Cream Maker:          MIM001, MIM002, MIM003, MIM004, MIM005, MIM006,</p> <p>Milk frother :          MMF-210, MMF-211, MMF-212, MMF-213, MMF-215, MMF-216, MMF-217, MMF-217-16, MMF-218, MMF-219, MMF-2101, MMF-2102, MMF-2103, MMF-2104, MMF-2105, MMF-2106, MMF-2108, MMF-2109, MMF-2110, MMF-2201, MMF-902, MMF-902-V2, MMF-902-V3, MMF-903, MMF-903-V2, MMF-903-V3, MMF-908, MMF-908-A1, MMF-908-V2, MMF-908-V3, MMF-913, MMF-904, MMF-905, MMF-906,</p> <p>MMF-xyy, MMF-xyyA, MMF-xyyB, MMF-xyyC, MMF-xyyD, MMF-xyyE, MMF-xyyF, MMF-xyyG, MMF-xyyH,          (x=0 or 1 indicate different appearance of appliance;          yy=02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17, 18, 19, 20, 21,22,23,24,25,28,32 indicate different shape of handle)          MMF-60m-V2, MMF-60mA-V2, MMF-60mB-V2, MMF-60mC-V2, MMF-60mE-V2, MMF-60mF-V2,          MMF-60nn-V2, MMF-60nnA-V2, MMF-60nnB-V2, MMF-60nnC-V2, MMF-60nnE-V2 MMF-60nnF-V2,          MMF-61m-V2, MMF-61mA-V2, MMF-61mB-V2, MMF-61mC-V2, MMF-61mE-V2, MMF-61mF-V2,          MMF-61nn-V2, MMF-61nnA-V2, MMF-61nnB-V2, MMF-61nnC-V2, MMF-61nnE-V2, MMF-61nnF-V2          (m and nn indicate different shape of handle, m=1,2,3,4,5,6,7,8,9;          nn= 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25)</p> <p>MMF-809 MMF-809-1 MMF-809-2, MMF-809-A , MMF-809-1A , MMF-809-2A , MMF-809-B , MMF-809-1B , MMF-809-2B,          MMF-810 MMF-810-1 MMF-810-2, MMF-811, MMF-812, MMF-813, MMF-814, MMF-815, MMF-816, MMF-817, MMF-818, MMF-819, MMF-820, MMF-8101,</p> <p>MMF-50x-V2, MMF-50yy-V2, MMF-51x-V2, MMF-51yy-V2, MMF-70x-V2, MMF-70yy-V2,</p>
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	<p>MMF-5220,          MMF-23x-V2, MMF-23yy-V2,MMF-2330,          MMF-801-V2, MMF-802-V2, MMF-803-V2, MMF-804-V2, MMF-801A, MMF-801B, MMF-808-V2          MMF-00x-V3, MMF-00xA-V3, MMF-00xB-V3,          MMF-00xC-V3, MMF-00xD-V3, MMF-00xE-V3, MMF-00xF-V3, MMF-00xG-V3,          MMF-0yy-V3, MMF-0yyA-V3, MMF-0yyB-V3,          MMF-0yyC-V3, MMF-0yyD-V3, MMF-0yyE-V3, MMF-0yyF-V3, MMF-0yyG-V3          (x and yy indicate different shape of handle, x =1,2,3,4,5,6,7,8,9;          yy = 10,11,12,13,14,15,16,17,18,19, 20,21,22,24,27)</p> <p>MMF-901, MMF-907 MMF-919, MMF-922,MMF-9401, MMF-920,MMF-9201,MMF-9202,          MMF-9203,MMF-9204,          MMF-915, MMF-916, SMAI 550A1,MMF-9103, MMF-9105A, MMF-9105B,          MMF-9106, MMF-9110, MMF-9111, MMF-9113, MMF-9114, MMF-9115          MMF-909, MMF-912, MMF-917, MMF-918, , MMF-921A, MMF-921B, MMF-923A, MMF-923B,MMF-9302, MMF-9303, MMF-9304, MMF-9305, MMF-9306 , MMF-9307,          MMF-D003, MMF-D004, MMF-D005,MMF-BX03,          MMF-xyy-V4, MMF-xyyA-V4, MMF-0xB-V4, MMF-0xD-V4,          (x=0; yy=02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19, 20,21,22,24,27))          MMF-BX03, MMF-BX05,          VA-EB008,MI-MF001,VA-EE013,MI-MF002          MFP-2001, MFP-2002, MFP-2003</p> <p>MMF-9106-FX; MMF-9105-FX; MMF-9105A-FX</p> <p>F is for different shaped hardware cups; F= A,B,C;          X for different shapes of handles; X= 1,2,3,4,5,6,7,8,9</p>
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### SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
Sensory Test (Odour and Taste) for Materials in Contact with Foodstuffs – EC No. 1935/2004 and § 30 and 31 LFGB and BfR Recommendation	PASS	
Peroxides Value for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Total Chromium, Hafnium, Vanadium and Zirconium Content for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs –Commission Regulation (EU) 2020/1245 of 2 September 2020 amending and correcting Regulation (EU) No 10/2011	PASS	
Overall Migration Test for Plastic Materials in Contact with Foodstuffs –Commission Regulation (EU) 2020/1245 of 2 September 2020 amending and correcting Regulation (EU) No 10/2011	PASS	
Overall Migration Test for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB, and BfR Recommendation	PASS	
Extractable Matter Content for Silicone in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Volatile Organic Matter Content for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Specific Migration of Acrylonitrile for Plastic Materials in Contact with Foodstuffs –Commission Regulation (EU) 2020/1245 of 2 September 2020 amending and correcting Regulation (EU) No 10/2011	PASS	
Total Zinc and Boron Content for Plastic Materials in Contact with Foodstuffs - § 30 and 31 LFGB and BfR Recommendation	PASS	
Specific Migration of Formaldehyde for Materials in Contact with Foodstuffs –Commission Regulation (EU) 2020/1245 of 2 September 2020 amending and correcting Regulation (EU) No 10/2011	PASS	





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Specific Migration of Formaldehyde for Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Specific Migration of 1,3-Butadiene for Plastic Materials in Contact with Foodstuffs –Commission Regulation (EU) 2020/1245 of 2 September 2020 amending and correcting Regulation (EU) No 10/2011	PASS	
Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs	PASS	
Specific Migration of Primary Aromatic Amine for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB, BfR Recommendation	PASS	
Specific Migration of Phenolic Substance for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Specific Migration of Chromium III and Chromium VI for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS	
Specific Migration of Bisphenol A for Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2018/213	PASS	
Total Cadmium Content in Plastic Material - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Entry 23	PASS	
Polycyclic Aromatic Hydrocarbons (PAHs) Content - German Product Safety Commission GS Specification AfPS GS 2019:01 PAK	PASS	



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**SAMPLE DESCRIPTION ASSIGNED BY LABORATORY**

ITEM	ITEM DESCRIPTION
1	Black plastic(Milk frother rotor)(PP)
2	Transparent plastic (lid)(PC)
3	Transparent plastic (lid)(tritan)
4	Translucent plastic(Seal ring)(Silicone)
5	Silvery metal(Spring)(SUS304)
6	Silvery metal with grey coating (Bowl)(ILAG SP 500)
7	Silvery metal with grey coating (Bowl)
8	Transparent plastic (Lid)(AS)
9	White plastic (Lid)(PP)
10	White plastic (Rod)(POM)
11	Black plastic (Milk frother rotor/Rod)(POM)
12	Transparent plastic(Lid)(ABS)
13	Silvery metal(Motor shaft)(Stainless steel)
14	Silvery metal with grey coating (Bowl)(ILAG SP 300)
15	Silvery metal with white glaze (Inner cup)(Enamel)

BUREAU VERITAS CONSUMER PRODUCTS SERVICES (GUANGZHOU) CO., LTD.

Kenny Wang  
OPERATION MANAGER



**REMARK**

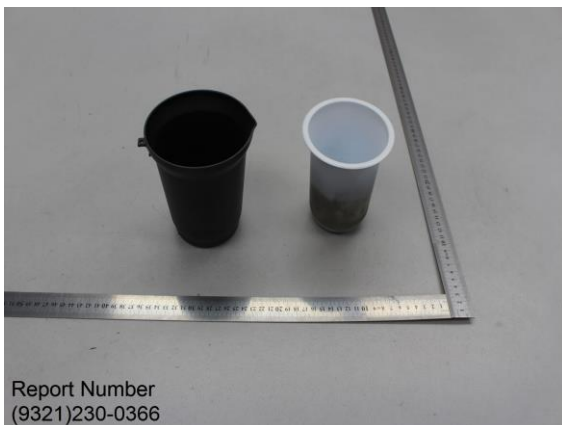
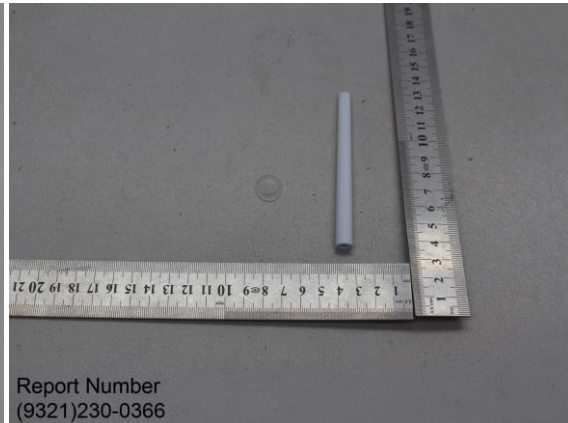
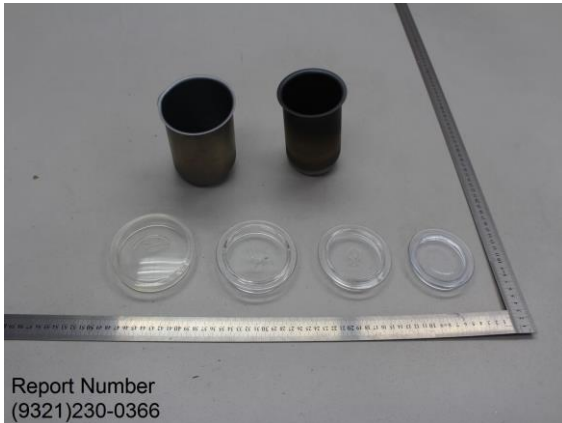
If there are questions or concerns on this report, please contact the following persons:

- a) GENERAL TEL: (86)755 83437287  
FAX: (86)755 83439100  
b) BUSINESS SZ TEL: (86)755 21534695  
FAX: (86)755 83439100  
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TEL:  
FAX: (86) 20 87148528

EMAIL: eechemical.sc@bureauveritas.com  
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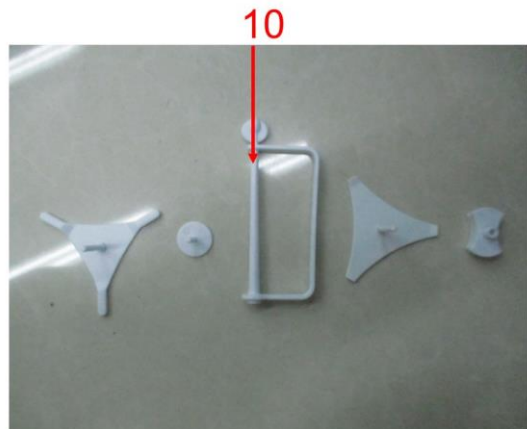
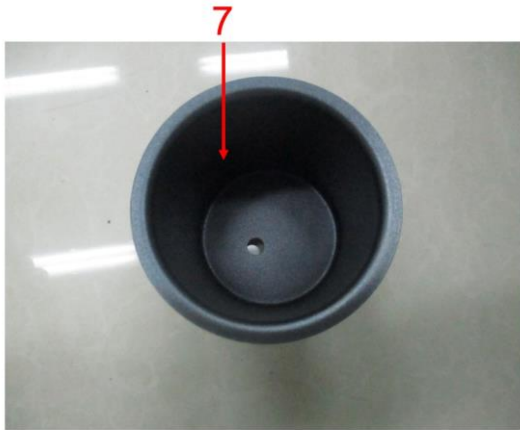


**Photo of the Submitted Sample**



Photograph of test item(s)





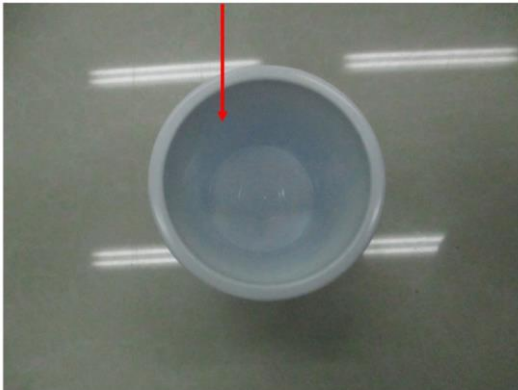
13



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### TEST RESULT

**\*Sensory Test (Odour and Taste) for Materials in Contact with Foodstuffs – EC No. 1935/2004 and § 30 and 31 LFGB and BfR Recommendation**

Parameter	Result		Maximum Allowable Limit
	1	2	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	3	4	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	5	6	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	7	8	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-



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Parameter	Result		Maximum Allowable Limit
	9	10	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	11	12	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	13	14	
Odour	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	
<b>Conclusion</b>	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	15		
Odour	0		2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	0		2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0		
<b>Conclusion</b>	PASS		-

Note: Scale: 0 = no perceptible off-odour (or taste transfer);  
 1 = off-odour (or taste transfer) just perceptible (but still difficult to define);  
 2 = slight off-odour (or taste transfer);  
 3 = distinct off-odour (or taste transfer);  
 4 = strong off-odour (or taste transfer)

Method: DIN 10955: 2004-06





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### TEST RESULT

#### \*Peroxides Value for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation

Parameter	Result		Maximum Allowable Limit
	1	4	
Peroxides	Absent	Absent	Absent
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	8	9	
Peroxides	Absent	Absent	Absent
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	12		
Peroxides	Absent		Absent
Conclusion	PASS		-

Method: European Pharmacopeia 5.0, Ph. Eur. Method 2.5.5.

Remark: The limit refers to BfR Recommendation VI.  
The limit refers to BfR Recommendation VII.  
The limit refers to BfR Recommendation XV.





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### TEST RESULT

**\*Total Chromium, Hafnium, Vanadium and Zirconium Content for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation**

Parameter	Unit	Result		Maximum Allowable Limit
		1	9	
Total Chromium (Cr)	mg/kg	<2	<2	10
Total Hafnium (Hf)	mg/kg	<10	<10	100
Total Vanadium (V)	mg/kg	<2	<2	20
Total Zirconium (Zr)	mg/kg	<10	<10	100
<b>Conclusion</b>	-	PASS	PASS	-

Note: “<” = less than  
mg/kg = milligram per kilogram

Method: Acid digestion and analysis by Inductively Coupled Argon Plasma Spectrometer (ICP).

Remark: The limit refers to BfR Recommendation VII.



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### TEST RESULT

**\*Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments**

Test Condition: 3%acetic acid, 70°C 0.5H

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			1			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	0.0129	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			2			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	0.0145	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			3			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	0.0119	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	3.3			-
Volume of stimulant used	-	mL	320			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	5
Aluminum (Al)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3% Acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			7			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.8			-
Volume of stimulant used	-	mL	290			-
Barium (Ba)	3% Acetic acid	mg/kg	0.140	0.0801	0.0450	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3% Acetic acid	mg/kg	0.0981	0.199	<0.04	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	0.139	0.0366	0.0192	5
Aluminum (Al)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3% Acetic acid	mg/kg	0.0116	<0.01	<0.01	0.02
Antimony (Sb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3% Acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			8			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-





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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			9			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	0.0166	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			10			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	0.0169	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			11			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	0.0120	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			12			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			14			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.1			-
Volume of stimulant used	-	mL	350			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	5
Iron (Fe)	3% Acetic acid	mg/kg	<0.04	<0.04	<0.04	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	5
Aluminum (Al)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Nickel (Ni)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Arsenic (As)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Cadmium (Cd)	3% Acetic acid	mg/kg	<0.002	<0.002	<0.002	Not detected
Chromium (Cr)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Europium (Eu)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lead (Pb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Mercury (Hg)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	Not detected
Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-



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Test Condition: 3%acetic acid, 70°C, 2h

Parameter	Simulant Used	Unit	Result	Maximum Allowable Limit
			15	
Food contact surface area	-	dm <sup>2</sup>	0.6	-
Volume of stimulant used	-	mL	100	-
Barium (Ba)	3%acetic acid	mg/kg	<0.04	1
Cobalt (Co)	3%acetic acid	mg/kg	<0.01	0.05
Copper (Cu)	3%acetic acid	mg/kg	<0.04	5
Iron (Fe)	3%acetic acid	mg/kg	<0.04	48
Lithium (Li)	3%acetic acid	mg/kg	<0.01	0.6
Manganese (Mn)	3%acetic acid	mg/kg	<0.01	0.6
Zinc (Zn)	3%acetic acid	mg/kg	<0.01	5
Aluminum (Al)	3%acetic acid	mg/kg	<0.1	1
Nickel (Ni)	3%acetic acid	mg/kg	<0.01	0.02
Antimony (Sb)	3%acetic acid	mg/kg	<0.01	0.04
Arsenic (As)	3%acetic acid	mg/kg	<0.01	Not detected
Cadmium (Cd)	3%acetic acid	mg/kg	<0.002	Not detected
Chromium (Cr)	3%acetic acid	mg/kg	<0.01	Not detected
Europium (Eu)	3%acetic acid	mg/kg	<0.01	0.05
Gadolinium (Gd)	3%acetic acid	mg/kg	<0.01	0.05
Lanthanum (La)	3%acetic acid	mg/kg	<0.01	0.05
Lead (Pb)	3%acetic acid	mg/kg	<0.01	Not detected
Mercury (Hg)	3%acetic acid	mg/kg	<0.01	Not detected
Terbium (Tb)	3%acetic acid	mg/kg	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3%acetic acid	mg/kg	<0.01	0.05
<b>Conclusion</b>	-	-	PASS	-

Note: “<” = less than  
 mg/kg = milligram per kilogram

Method: EN 13130-1: 2004 and analysis by Inductively Coupled Argon Plasma Spectrometer (ICP).

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) For article intended for repeated use, the migration tests are carried out three times on the same test sample, the first test result will be issued for the requirements mentioned with “Not detected (ND)” and the remaining requirements will be issued with the third test results.



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### TEST RESULT

**\*Overall Migration Test for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments**

**Test Condition:** 50% ethanol, 70°C, 2h

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		1				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		2				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		3				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		8				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-



Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		9				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		10				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		11				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		12				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+2
Conclusion	-	PASS			-	-

Note: “<” = less than  
mg/dm<sup>2</sup> = milligram per square decimeter  
mg/kg = milligram per kilogram

Method: EN 1186-1: 2002;

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.  
2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and the third test result is shown in result table.



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### TEST RESULT

**\*Overall Migration Test for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB, and BfR Recommendation**

Test Condition: 95% ethanol, 60°C, 6h

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		6				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
95% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+3
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		7				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
95% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+3
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		14				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm <sup>2</sup>	0.6			-	-
Volume of stimulant used	mL	100			-	-
95% Ethanol	mg/dm <sup>2</sup>	<5	<5	<5	10	+3
Conclusion	-	PASS			-	-

Note: “<” = less than  
 mg/dm<sup>2</sup> = milligram per square decimeter

Method: BfR Recommendation LI.



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### TEST RESULT

**\*Extractable Matter Content for Silicone in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation**

Parameter	Simulant	Unit	Result	Maximum Allowable Limit
			4	
Extractable Matter	Distilled water	% (w/w)	< 0.05	0.5
<b>Conclusion</b>		-	PASS	-

Note: “<” = less than

Method: Gravimetric method.

Remark: The limit refers to BfR Recommendation XV.



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### TEST RESULT

#### **\*Volatile Organic Matter Content for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation**

Parameter	Unit	Result		Maximum Allowable Limit
		8	12	
Volatile Organic Matter	mg/dm <sup>2</sup>	3.54	<1	15
<b>Conclusion</b>	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		4		
Volatile Organic Matter	% (w/w)	0.4		0.5
<b>Conclusion</b>	-	PASS		-

Note: “<” = less than  
mg/dm<sup>2</sup> = milligram per square decimeter

Method: Gravimetric method.

Remark: The limit refers to BfR Recommendation VI.  
The limit refers to BfR Recommendation XV.



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### TEST RESULT

#### **\*Specific Migration of Acrylonitrile for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments**

Test Condition: 50% ethanol, 70°C, 0.5h

Parameter	Simulant Used	Unit	Result	Maximum Allowable Limit
			8	
Food contact surface area	-	dm <sup>2</sup>	0.6	-
Volume of stimulant used	-	mL	100	-
Acrylonitrile	Distilled water	mg/kg	<0.01	Not Detected
<b>Conclusion</b>	-	-	PASS	-

Parameter	Simulant Used	Unit	Result	Maximum Allowable Limit
			12	
Food contact surface area	-	dm <sup>2</sup>	0.6	-
Volume of stimulant used	-	mL	100	-
Acrylonitrile	Distilled water	mg/kg	<0.01	Not Detected
<b>Conclusion</b>	-	-	PASS	-

Note: “<” = less than  
mg/kg = milligram per kilogram

Method: EN 13130-1: 2004 and EN 13130-3:2004.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) Due to the fact that SML for Acrylonitrile is specified as not detectable meaning < 0.01 mg/kg analysis and assessment has to be performed using the 1<sup>st</sup> migrate in any case no matter whether article/materials is intended for single or repeated use.



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### TEST RESULT

**\*Total Zinc and Boron Content for Plastic Materials in Contact with Foodstuffs - § 30 and 31 LFGB and BfR Recommendation**

Parameter	Unit	Result		Maximum Allowable Limit
		10	11	
Total Boron (B)	%	<0.001	<0.001	0.008
Total Zinc (Zn)	%	<0.005	<0.005	1
<b>Conclusion</b>	-	PASS	PASS	-

Note: “<” = less than

Method: Acid digestion and analysis by Inductively Coupled Argon Plasma Spectrometer (ICP).

Remark: The limit refers to BfR Recommendation XXXIII.

### TEST RESULT

#### \*Specific Migration of Formaldehyde for Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments

Test Condition: 3% Acetic acid, 70°C, 0.5h

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			8			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm²	0.6			-
Volume of stimulant used	-	mL	100			-
Formaldehyde	Distilled water	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			10			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	0.6			-
Volume of stimulant used	-	mL	100			-
Formaldehyde	Distilled water	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			11			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm²	0.6			-
Volume of stimulant used	-	mL	100			-
Formaldehyde	Distilled water	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			12			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm²	0.6			-
Volume of stimulant used	-	mL	100			-
Formaldehyde	Distilled water	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Note: “<” = less than  
mg/kg = milligram per kilogram

Method: EN 13130-1:2004 and CEN/TS 13130-23:2005

Remark: For plastic kitchenware made by melamine, declaration shall be provided for every consignment of melamine plastic kitchenware originating in or consigned from the People’s Republic of China and Hong Kong Special Administrative Region, China. Please refer to Annex I for details.





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- Remark:
- 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.
  - 2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and the third test result is shown in result table.

### TEST RESULT

#### \*Specific Migration of Formaldehyde for Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation

Test Condition: 3% Acetic acid ,95°C,1h

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	3.3			-
Volume of stimulant used	-	mL	320			-
Formaldehyde	3% Acetic acid	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			7			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.8			-
Volume of stimulant used	-	mL	290			-
Formaldehyde	3% Acetic acid	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			14			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm²	0.6			-
Volume of stimulant used	-	mL	100			-
Formaldehyde	3% Acetic acid	mg/kg	<1.5	<1.5	<1.5	15
Conclusion	-	-	PASS			-

Note: “<” = less than  
mg/kg = milligram per kilogram

Method: EN 13130-1:2004 and CEN/TS 13130-23:2005

Remark: The limit refers to BfR Recommendation LI.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and three test results are shown in result table.



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### TEST RESULT

#### **\*Specific Migration of 1,3-Butadiene for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments**

Test Condition: 50% ethanol, 70°C, 0.5h

Parameter	Simulant Used	Unit	Result	Maximum Allowable Limit
			12	
Food contact surface area	-	dm <sup>2</sup>	0.6	-
Volume of stimulant used	-	mL	100	-
1,3-Butadiene	50% ethanol	mg/kg	<0.01	Not Detected
<b>Conclusion</b>	-	-	PASS	-

Note: “<” = less than  
mg/kg = milligram per kilogram

Method: EN 13130-1: 2004 and EN 13130-15:2005.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) Due to the fact that SML for Butadiene is specified as not detectable meaning < 0.01 mg/kg analysis and assessment has to be performed using the 1<sup>st</sup> migrate in any case no matter whether article/materials is intended for single or repeated use.



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### TEST RESULT

#### \*Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

Test Condition: 0.5% citric acid, 70°C, 0.5h

Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) <sup>[a, b]</sup>
		5			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate <sup>[b]</sup>	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-		-
Volume of stimulant used	mL	125	125		-
Aluminum (Al)	mg/kg	<0.1	<0.1	<0.1	35
Antimony (Sb)	mg/kg	<0.004	<0.004	<0.004	0.28
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	1.75
Cobalt (Co)	mg/kg	<0.005	<0.005	<0.005	0.14
Copper (Cu)	mg/kg	<0.5	<0.5	<0.5	28
Iron (Fe)	mg/kg	<5	<5	<5	280
Magnesium (Mg)	mg/kg	<0.5	<0.5	<0.5	-
Manganese (Mn)	mg/kg	<0.1	<0.1	<0.1	12.6
Molybdenum (Mo)	mg/kg	<0.01	<0.01	<0.01	0.84
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	0.98
Silver (Ag)	mg/kg	<0.01	<0.01	<0.01	0.56
Tin (Sn)	mg/kg	<5	<5	<5	700
Titanium (Ti)	mg/kg	<0.5	<0.5	<0.5	-
Vanadium (V)	mg/kg	<0.01	<0.01	<0.01	0.07
Zinc (Zn)	mg/kg	<5	<5	<5	35
Arsenic (As)	mg/kg	<0.002	<0.002	<0.002	0.014
Barium (Ba)	mg/kg	<0.1	<0.1	<0.1	8.4
Beryllium (Be)	mg/kg	<0.001	<0.001	<0.001	0.07
Cadmium (Cd)	mg/kg	<0.001	<0.001	<0.001	0.035
Lead (Pb)	mg/kg	<0.002	<0.002	<0.002	0.07
Lithium (Li)	mg/kg	<0.01	<0.01	<0.01	0.336
Mercury (Hg)	mg/kg	<0.003	<0.003	<0.003	0.021
Thallium (Tl)	mg/kg	<0.0001	<0.0001	<0.0001	0.0007
Conclusion	-	-	-	PASS	-



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Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) <sup>[a]</sup>
		5	
		3rd Migrate	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-
Volume of stimulant used	mL	125	-
Aluminum (Al)	mg/kg	<0.1	5
Antimony (Sb)	mg/kg	<0.004	0.04
Chromium (Cr)	mg/kg	<0.1	0.250
Cobalt (Co)	mg/kg	<0.005	0.02
Copper (Cu)	mg/kg	<0.5	4
Iron (Fe)	mg/kg	<5	40
Magnesium (Mg)	mg/kg	<0.5	-
Manganese (Mn)	mg/kg	<0.1	1.8
Molybdenum (Mo)	mg/kg	<0.01	0.12
Nickel (Ni)	mg/kg	<0.02	0.14
Silver (Ag)	mg/kg	<0.01	0.08
Tin (Sn)	mg/kg	<5	100
Titanium (Ti)	mg/kg	<0.5	-
Vanadium (V)	mg/kg	<0.01	0.01
Zinc (Zn)	mg/kg	<5	5
Arsenic (As)	mg/kg	<0.002	0.002
Barium (Ba)	mg/kg	<0.1	1.2
Beryllium (Be)	mg/kg	<0.001	0.01
Cadmium (Cd)	mg/kg	<0.001	0.005
Lead (Pb)	mg/kg	<0.002	0.01
Lithium (Li)	mg/kg	<0.01	0.048
Mercury (Hg)	mg/kg	<0.003	0.003
Thallium (Tl)	mg/kg	<0.0001	0.0001
<b>Conclusion</b>	-	PASS	-



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Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) <sup>[a, b]</sup>
		13			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate <sup>[b]</sup>	
Envelope volume/ Filling volume	cm³	-	-		-
Volume of stimulant used	mL	125	125		-
Aluminum (Al)	mg/kg	<0.1	<0.1	<0.1	35
Antimony (Sb)	mg/kg	<0.004	<0.004	<0.004	0.28
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	1.75
Cobalt (Co)	mg/kg	<0.005	<0.005	<0.005	0.14
Copper (Cu)	mg/kg	<0.5	<0.5	<0.5	28
Iron (Fe)	mg/kg	<5	<5	<5	280
Magnesium (Mg)	mg/kg	<0.5	<0.5	<0.5	-
Manganese (Mn)	mg/kg	<0.1	<0.1	<0.1	12.6
Molybdenum (Mo)	mg/kg	<0.01	<0.01	<0.01	0.84
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	0.98
Silver (Ag)	mg/kg	<0.01	<0.01	<0.01	0.56
Tin (Sn)	mg/kg	<5	<5	<5	700
Titanium (Ti)	mg/kg	<0.5	<0.5	<0.5	-
Vanadium (V)	mg/kg	<0.01	<0.01	<0.01	0.07
Zinc (Zn)	mg/kg	<5	<5	<5	35
Arsenic (As)	mg/kg	<0.002	<0.002	<0.002	0.014
Barium (Ba)	mg/kg	<0.1	<0.1	<0.1	8.4
Beryllium (Be)	mg/kg	<0.001	<0.001	<0.001	0.07
Cadmium (Cd)	mg/kg	<0.001	<0.001	<0.001	0.035
Lead (Pb)	mg/kg	<0.002	<0.002	<0.002	0.07
Lithium (Li)	mg/kg	<0.01	<0.01	<0.01	0.336
Mercury (Hg)	mg/kg	<0.003	<0.003	<0.003	0.021
Thallium (Tl)	mg/kg	<0.0001	<0.0001	<0.0001	0.0007
Conclusion	-	-	-	PASS	-



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Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) <sup>[a]</sup>
		13	
		3rd Migrate	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-
Volume of stimulant used	mL	125	-
Aluminum (Al)	mg/kg	<0.1	5
Antimony (Sb)	mg/kg	<0.004	0.04
Chromium (Cr)	mg/kg	<0.1	0.250
Cobalt (Co)	mg/kg	<0.005	0.02
Copper (Cu)	mg/kg	<0.5	4
Iron (Fe)	mg/kg	<5	40
Magnesium (Mg)	mg/kg	<0.5	-
Manganese (Mn)	mg/kg	<0.1	1.8
Molybdenum (Mo)	mg/kg	<0.01	0.12
Nickel (Ni)	mg/kg	<0.02	0.14
Silver (Ag)	mg/kg	<0.01	0.08
Tin (Sn)	mg/kg	<5	100
Titanium (Ti)	mg/kg	<0.5	-
Vanadium (V)	mg/kg	<0.01	0.01
Zinc (Zn)	mg/kg	<5	5
Arsenic (As)	mg/kg	<0.002	0.002
Barium (Ba)	mg/kg	<0.1	1.2
Beryllium (Be)	mg/kg	<0.001	0.01
Cadmium (Cd)	mg/kg	<0.001	0.005
Lead (Pb)	mg/kg	<0.002	0.01
Lithium (Li)	mg/kg	<0.01	0.048
Mercury (Hg)	mg/kg	<0.003	0.003
Thallium (Tl)	mg/kg	<0.0001	0.0001
<b>Conclusion</b>	-	PASS	-



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Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) <sup>[a, b]</sup>
		6			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate <sup>[b]</sup>	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-		-
Volume of stimulant used	mL	400	400		-
Aluminum (Al)	mg/kg	<0.1	<0.1	<0.1	35
Antimony (Sb)	mg/kg	<0.004	<0.004	<0.004	0.28
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	1.75
Cobalt (Co)	mg/kg	<0.005	<0.005	<0.005	0.14
Copper (Cu)	mg/kg	<0.5	<0.5	<0.5	28
Iron (Fe)	mg/kg	<5	<5	<5	280
Magnesium (Mg)	mg/kg	<0.5	<0.5	<0.5	-
Manganese (Mn)	mg/kg	<0.1	<0.1	<0.1	12.6
Molybdenum (Mo)	mg/kg	<0.01	<0.01	<0.01	0.84
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	0.98
Silver (Ag)	mg/kg	<0.01	<0.01	<0.01	0.56
Tin (Sn)	mg/kg	<5	<5	<5	700
Titanium (Ti)	mg/kg	<0.5	<0.5	<0.5	-
Vanadium (V)	mg/kg	<0.01	<0.01	<0.01	0.07
Zinc (Zn)	mg/kg	<5	<5	<5	35
Arsenic (As)	mg/kg	<0.002	<0.002	<0.002	0.014
Barium (Ba)	mg/kg	<0.1	<0.1	<0.1	8.4
Beryllium (Be)	mg/kg	<0.001	<0.001	<0.001	0.07
Cadmium (Cd)	mg/kg	<0.001	<0.001	<0.001	0.035
Lead (Pb)	mg/kg	<0.002	<0.002	<0.002	0.07
Lithium (Li)	mg/kg	<0.01	<0.01	<0.01	0.336
Mercury (Hg)	mg/kg	<0.003	<0.003	<0.003	0.021
Thallium (Tl)	mg/kg	<0.0001	<0.0001	<0.0001	0.0007
Conclusion	-	-	-	PASS	-





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Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) <sup>[a]</sup>
		6	
		3rd Migrate	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-
Volume of stimulant used	mL	400	-
Aluminum (Al)	mg/kg	<0.1	5
Antimony (Sb)	mg/kg	<0.004	0.04
Chromium (Cr)	mg/kg	<0.1	0.250
Cobalt (Co)	mg/kg	<0.005	0.02
Copper (Cu)	mg/kg	<0.5	4
Iron (Fe)	mg/kg	<5	40
Magnesium (Mg)	mg/kg	<0.5	-
Manganese (Mn)	mg/kg	<0.1	1.8
Molybdenum (Mo)	mg/kg	<0.01	0.12
Nickel (Ni)	mg/kg	<0.02	0.14
Silver (Ag)	mg/kg	<0.01	0.08
Tin (Sn)	mg/kg	<5	100
Titanium (Ti)	mg/kg	<0.5	-
Vanadium (V)	mg/kg	<0.01	0.01
Zinc (Zn)	mg/kg	<5	5
Arsenic (As)	mg/kg	<0.002	0.002
Barium (Ba)	mg/kg	<0.1	1.2
Beryllium (Be)	mg/kg	<0.001	0.01
Cadmium (Cd)	mg/kg	<0.001	0.005
Lead (Pb)	mg/kg	<0.002	0.01
Lithium (Li)	mg/kg	<0.01	0.048
Mercury (Hg)	mg/kg	<0.003	0.003
Thallium (Tl)	mg/kg	<0.0001	0.0001
<b>Conclusion</b>	-	PASS	-



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Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) <sup>[a, b]</sup>
		7			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate <sup>[b]</sup>	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-		-
Volume of stimulant used	mL	300	300		-
Aluminum (Al)	mg/kg	<0.1	<0.1	<0.1	35
Antimony (Sb)	mg/kg	<0.004	<0.004	<0.004	0.28
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	1.75
Cobalt (Co)	mg/kg	<0.005	<0.005	<0.005	0.14
Copper (Cu)	mg/kg	<0.5	<0.5	<0.5	28
Iron (Fe)	mg/kg	<5	<5	<5	280
Magnesium (Mg)	mg/kg	<0.5	<0.5	<0.5	-
Manganese (Mn)	mg/kg	<0.1	<0.1	<0.1	12.6
Molybdenum (Mo)	mg/kg	<0.01	<0.01	<0.01	0.84
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	0.98
Silver (Ag)	mg/kg	<0.01	<0.01	<0.01	0.56
Tin (Sn)	mg/kg	<5	<5	<5	700
Titanium (Ti)	mg/kg	<0.5	<0.5	<0.5	-
Vanadium (V)	mg/kg	<0.01	<0.01	<0.01	0.07
Zinc (Zn)	mg/kg	<5	<5	<5	35
Arsenic (As)	mg/kg	<0.002	<0.002	<0.002	0.014
Barium (Ba)	mg/kg	0.377	<0.1	0.377	8.4
Beryllium (Be)	mg/kg	<0.001	<0.001	<0.001	0.07
Cadmium (Cd)	mg/kg	<0.001	<0.001	<0.001	0.035
Lead (Pb)	mg/kg	<0.002	<0.002	<0.002	0.07
Lithium (Li)	mg/kg	<0.01	<0.01	<0.01	0.336
Mercury (Hg)	mg/kg	<0.003	<0.003	<0.003	0.021
Thallium (Tl)	mg/kg	<0.0001	<0.0001	<0.0001	0.0007
Conclusion	-	-	-	PASS	-



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Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) <sup>[a]</sup>
		7	
		3rd Migrate	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-
Volume of stimulant used	mL	300	-
Aluminum (Al)	mg/kg	<0.1	5
Antimony (Sb)	mg/kg	<0.004	0.04
Chromium (Cr)	mg/kg	<0.1	0.250
Cobalt (Co)	mg/kg	<0.005	0.02
Copper (Cu)	mg/kg	<0.5	4
Iron (Fe)	mg/kg	<5	40
Magnesium (Mg)	mg/kg	<0.5	-
Manganese (Mn)	mg/kg	<0.1	1.8
Molybdenum (Mo)	mg/kg	<0.01	0.12
Nickel (Ni)	mg/kg	<0.02	0.14
Silver (Ag)	mg/kg	<0.01	0.08
Tin (Sn)	mg/kg	<5	100
Titanium (Ti)	mg/kg	<0.5	-
Vanadium (V)	mg/kg	<0.01	0.01
Zinc (Zn)	mg/kg	<5	5
Arsenic (As)	mg/kg	<0.002	0.002
Barium (Ba)	mg/kg	<0.1	1.2
Beryllium (Be)	mg/kg	<0.001	0.01
Cadmium (Cd)	mg/kg	<0.001	0.005
Lead (Pb)	mg/kg	<0.002	0.01
Lithium (Li)	mg/kg	<0.01	0.048
Mercury (Hg)	mg/kg	<0.003	0.003
Thallium (Tl)	mg/kg	<0.0001	0.0001
<b>Conclusion</b>	-	PASS	-



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Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) <sup>[a, b]</sup>
		14			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate <sup>[b]</sup>	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-		-
Volume of stimulant used	mL	600	600		-
Aluminum (Al)	mg/kg	<0.1	<0.1	<0.1	35
Antimony (Sb)	mg/kg	<0.004	<0.004	<0.004	0.28
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	1.75
Cobalt (Co)	mg/kg	<0.005	<0.005	<0.005	0.14
Copper (Cu)	mg/kg	<0.5	<0.5	<0.5	28
Iron (Fe)	mg/kg	<5	<5	<5	280
Magnesium (Mg)	mg/kg	<0.5	<0.5	<0.5	-
Manganese (Mn)	mg/kg	<0.1	<0.1	<0.1	12.6
Molybdenum (Mo)	mg/kg	<0.01	<0.01	<0.01	0.84
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	0.98
Silver (Ag)	mg/kg	<0.01	<0.01	<0.01	0.56
Tin (Sn)	mg/kg	<5	<5	<5	700
Titanium (Ti)	mg/kg	<0.5	<0.5	<0.5	-
Vanadium (V)	mg/kg	<0.01	<0.01	<0.01	0.07
Zinc (Zn)	mg/kg	<5	<5	<5	35
Arsenic (As)	mg/kg	<0.002	<0.002	<0.002	0.014
Barium (Ba)	mg/kg	<0.1	<0.1	<0.1	8.4
Beryllium (Be)	mg/kg	<0.001	<0.001	<0.001	0.07
Cadmium (Cd)	mg/kg	<0.001	<0.001	<0.001	0.035
Lead (Pb)	mg/kg	<0.002	<0.002	<0.002	0.07
Lithium (Li)	mg/kg	<0.01	<0.01	<0.01	0.336
Mercury (Hg)	mg/kg	<0.003	<0.003	<0.003	0.021
Thallium (Tl)	mg/kg	<0.0001	<0.0001	<0.0001	0.0007
Conclusion	-	-	-	PASS	-



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Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) <sup>[a]</sup>
		14	
		3rd Migrate	
Envelope volume/ Filling volume	cm <sup>3</sup>	-	-
Volume of stimulant used	mL	600	-
Aluminum (Al)	mg/kg	<0.1	5
Antimony (Sb)	mg/kg	<0.004	0.04
Chromium (Cr)	mg/kg	<0.1	0.250
Cobalt (Co)	mg/kg	<0.005	0.02
Copper (Cu)	mg/kg	<0.5	4
Iron (Fe)	mg/kg	<5	40
Magnesium (Mg)	mg/kg	<0.5	-
Manganese (Mn)	mg/kg	<0.1	1.8
Molybdenum (Mo)	mg/kg	<0.01	0.12
Nickel (Ni)	mg/kg	<0.02	0.14
Silver (Ag)	mg/kg	<0.01	0.08
Tin (Sn)	mg/kg	<5	100
Titanium (Ti)	mg/kg	<0.5	-
Vanadium (V)	mg/kg	<0.01	0.01
Zinc (Zn)	mg/kg	<5	5
Arsenic (As)	mg/kg	<0.002	0.002
Barium (Ba)	mg/kg	<0.1	1.2
Beryllium (Be)	mg/kg	<0.001	0.01
Cadmium (Cd)	mg/kg	<0.001	0.005
Lead (Pb)	mg/kg	<0.002	0.01
Lithium (Li)	mg/kg	<0.01	0.048
Mercury (Hg)	mg/kg	<0.003	0.003
Thallium (Tl)	mg/kg	<0.0001	0.0001
<b>Conclusion</b>	-	PASS	-

Note: “<” = less than  
 mg/kg = milligram per kilogram

Method: With reference to Metals and Alloys used in Food Contact Materials and articles - A Practical Guide to Manufacturers and Regulators (2013 1st Edition) published by European Directorate for the Quality of Medicines and HealthCare (EDQM), Chapter 3.

Remark: 1) <sup>[a]</sup> denotes as this (these) maximum specific release limit(s) was (were) referenced from Metals and Alloys used in Food Contact Materials and articles - A Practical Guide to Manufacturers and Regulators (2013 1st Edition) published by European Directorate for the Quality of Medicines and HealthCare (EDQM), Chapter 1, Article 4, Tables 1 and 2.  
 2) Appropriate test condition(s) was (were) selected according to Guidelines on Testing Conditions for Articles in Contact with Foodstuffs (With a Focus on Kitchenware) (2009 1st Edition) published by European Commission Joint Research Center (JRC).  
 3) Artificial tap water was prepared according to German Standard DIN 10531: 2011-06.  
 4) <sup>[b]</sup> denotes as the sum of the results of the first and second migrates should not be exceed seven times the SRL



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### TEST RESULT

**\*Specific Migration of Primary Aromatic Amine for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB, BfR Recommendation**

Test Condition: 3% Acetic acid , 70°C, 0.5h

Parameter	Unit	Result			Maximum Allowable Limit
		6	7	14	
4-aminobiphenyl / 4-biphenylamine	ug/L	<0.002	<0.002	<0.002	2
o-anisidine / 2-methoxyaniline	ug/L	<0.002	<0.002	<0.002	2
Benzidine	ug/L	<0.002	<0.002	<0.002	2
4-Chloro-aniline / p-chloroaniline	ug/L	<0.002	<0.002	<0.002	2
4-Chloro-o-toluidine	ug/L	<0.002	<0.002	<0.002	2
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	ug/L	<0.002	<0.002	<0.002	2
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	ug/L	<0.002	<0.002	<0.002	2
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	ug/L	<0.002	<0.002	<0.002	2
2-Methoxy-5-methylaniline / p-cresidine	ug/L	<0.002	<0.002	<0.002	2
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	ug/L	<0.002	<0.002	<0.002	2
o-Toluidine / 2-aminotoluene	ug/L	<0.002	<0.002	<0.002	2
2,4-Toluenediamine	ug/L	<0.002	<0.002	<0.002	2
3,3-Dimethylbenzidine	ug/L	<0.002	<0.002	<0.002	2
2,4,5-Trimethylaniline	ug/L	<0.002	<0.002	<0.002	2
Aniline*	ug/L	<0.002	<0.002	<0.002	10
2,4-Dimethylaniline / 2,4-xylidine*	ug/L	<0.002	<0.002	<0.002	10
2,6-Dimethylaniline / 2,6-xylidine*	ug/L	<0.002	<0.002	<0.002	10
m-Phenylenediamine / 1,3-phenylenediamine*	ug/L	<0.002	<0.002	<0.002	10
p-Phenylenediamine / 1,4-phenylenediamine*	ug/L	<0.002	<0.002	<0.002	10
2,6-Toluenediamine*	ug/L	<0.002	<0.002	<0.002	10
1,5-Diaminenaphthalene*	ug/L	<0.002	<0.002	<0.002	10
2-naphthylamine	ug/L	<0.002	<0.002	<0.002	2
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolylazo-o-toluidine	ug/L	<0.002	<0.002	<0.002	2
5-nitro-o-toluidine*	ug/L	<0.002	<0.002	<0.002	10
3,3'-dichlorobenzidine	ug/L	<0.002	<0.002	<0.002	2
3,3'-dimethoxybenzidine / o-	ug/L	<0.002	<0.002	<0.002	2



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dianisidine					
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	ug/L	<0.002	<0.002	<0.002	2
4,4'-thiodianiline	ug/L	<0.002	<0.002	<0.002	2
4-amino azobenzene	ug/L	<0.002	<0.002	<0.002	2
Sum of primary aromatic amines with *	ug/L	<0.002	<0.002	<0.002	10
<b>Conclusion</b>	-	PASS	PASS	PASS	-

Note: “<” = less than  
ug/L = microgram per liter

Method: EN 13130-1: 2004 and 64 LFGB L 00.00-6:2004.

Remark: The limit refers to BfR Recommendation LI.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and three test results are shown in result table.

### TEST RESULT

**\*Specific Migration of Phenolic Substance for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation**

Test Condition: 3% Acetic acid ,95°C,1h

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	3.3			-
Volume of stimulant used	-	mL	320			-
Phenolic Substance	3% Acetic acid	mg/dm <sup>2</sup>	<0.05	<0.05	<0.05	0.05
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			7			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.8			-
Volume of stimulant used	-	mL	290			-
Phenolic Substance	3% Acetic acid	mg/dm <sup>2</sup>	<0.05	<0.05	<0.05	0.05
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			14			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.1			-
Volume of stimulant used	-	mL	350			-
Phenolic Substance	3% Acetic acid	mg/dm <sup>2</sup>	<0.05	<0.05	<0.05	0.05
Conclusion	-	-	PASS			-

Note: “<” = less than  
mg/dm<sup>2</sup> = milligram per square decimeter

Method: Food simulants extraction and analysis by Liquid Chromatography (LC).

Remark: The limit refers to BfR Recommendation LI.

Remark: 1) The migration test is carried out referring to EU regulation No. 10/2011 and the corresponding regulatory statutes.  
2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and three test results are shown in result table.





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### TEST RESULT

**\*Specific Migration of Chromium III and Chromium VI for Temperature Resistant Coating in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation**

Test Condition: 95% ethanol, 60°C, 6h  
 Distilled water, 95°C, 60min

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	3.3			-
Volume of stimulant used	-	mL	320			-
Chromium VI (Cr VI)	95% ethanol	mg/ article	<0.02	<0.02	<0.02	Not Detected
Chromium III (Cr III)	Distilled water	mg/dm <sup>2</sup>	<0.02	<0.02	<0.02	0.02
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			7			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.8			-
Volume of stimulant used	-	mL	290			-
Chromium VI (Cr VI)	95% ethanol	mg/ article	<0.02	<0.02	<0.02	Not Detected
Chromium III (Cr III)	Distilled water	mg/dm <sup>2</sup>	<0.02	<0.02	<0.02	0.02
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			14			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.1			-
Volume of stimulant used	-	mL	350			-
Chromium VI (Cr VI)	95% ethanol	mg/ article	<0.02	<0.02	<0.02	Not Detected
Chromium III (Cr III)	Distilled water	mg/dm <sup>2</sup>	<0.02	<0.02	<0.02	0.02
Conclusion	-	-	PASS			-

Note: "<" = less than

mg/article = milligram per article

mg/dm<sup>2</sup> = milligram per square decimeter

Method: Food simulants extraction and analysis by Inductively Coupled Argon Plasma Spectrometer (ICP) and UV-Vis Spectrophotometer.

Remark: The limit refers to BfR Recommendation LI.

Remark: 1) The migration test is carried out referring to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and three test results are shown in result table.

### TEST RESULT

**\*Specific Migration of Bisphenol A for Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2018/213**

Test Condition: 50% ethanol, 70°C, 0.5h

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm²	3.3			-
Volume of stimulant used	-	mL	320			-
Bisphenol A	50% ethanol	mg/kg	<0.05	<0.05	<0.05	0.05
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			7			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm <sup>2</sup>	2.8			-
Volume of stimulant used	-	mL	290			-
Bisphenol A	50% ethanol	mg/kg	<0.05	<0.05	<0.05	0.05
Conclusion	-	-	PASS			-

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			14			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm²	2.1			-
Volume of stimulant used	-	mL	350			-
Bisphenol A	50% ethanol	mg/kg	<0.05	<0.05	<0.05	0.05
Conclusion	-	-	PASS			-

Note: "<" = less than  
mg/kg = milligram per kilogram

Method: EN 13130-1: 2004 and CEN/TS 13130-13:2005.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.

2) For article intended for repeated use, the migration tests are carried out three times on the same test sample and the third test result is shown in result table.



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### TEST RESULT

**\*Total Cadmium Content in Plastic Material - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Entry 23**

**Test Method** : British Standard BS EN 1122: 2001, Method B.

<b>Maximum Allowable Limit :</b>		<b>100 mg/kg</b>
-	<b>Unit</b>	<b>Result</b>
<b>Test Item(s)</b>	-	3
<b>Parameter</b>	-	-
<b>Test Sample(s) / Trial(s)</b>	-	-
Trial 1	mg/kg	ND
Trial 2	mg/kg	ND
Average Total Cadmium (Cd)	mg/kg	ND
<b>Conclusion</b>	-	PASS

Note / Key :

ND = Not detected

“>” = Greater than

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

10 000 mg/kg = 1 %

% = percent

No. = Number(s)

Detection Limit (mg/kg) : 10

Remark :

- Plastic material(s) produced from recovered polyvinyl chloride (PVC) is (are) not allowed to comply with this requirement and has (have) to comply with another total cadmium requirement with maximum allowable limit of 1 000 mg/kg.

### TEST RESULT

**\*Polycyclic Aromatic Hydrocarbons (PAHs) Content - German Product Safety Commission GS Specification AfPS GS 2019:01 PAK**

**Test Method** : With reference to test method mentioned in German AfPS GS 2019:01 PAK.

Type ( See Comment for the List of Types )	I	IIa	IIb	IIIa	IIIb
Test Parameter(s)	Limit <sup>[a]</sup> ( mg/kg )				
Each of Benzo (a) pyrene, Benzo (e) pyrene, Benzo (a) anthracene, Benzo (b) fluoranthene, Benzo (j) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenzo (a,h) anthracene, Benzo (g,h,i) perylene and Indeno (1,2,3-cd) pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Naphthalene	< 1	< 2	< 2	< 10	< 10
Sum of Phenanthrene, Pyrene, Anthracene and Fluoranthene ( Sum of No. 11to No. 14 of listed PAHs )	< 1	< 5	< 10	< 20	< 50
Sum of all listed PAHs	< 1	< 5	< 10	< 20	< 50

Test Item(s)	Type	Result			Conclusion
		Detected Analyte(s)	Conc.	Unit	
3	I	ND	ND	mg/kg	PASS

Note / Key :

ND = Not detected                      ">" = Greater than                      Conc. = Concentration  
 mg/kg = milligram(s) per kilogram = ppm = part(s) per million                      "<" = Less than  
 AfPS = Ausschuss für Produktsicherheit = Product Safety Commission                      PAK = PAHs  
 GS = GS-Spezifikation = GS Specification                      No. = Number(s)  
 ProdSG = Produktsicherheitsgesetz = Product Safety Act  
 Detection Limit (mg/kg) : Each : 0.2; Sum : 0.2

Remark :

- The list of polycyclic aromatic hydrocarbons is summarized in table of Appendix.
- Plasticized and rubberized prints, coatings and plastic materials of product are applicable to be tested.
- <sup>[a]</sup> denotes as this (these) limit(s) applies to product(s) with GS-Mark dated on or after July 01, 2015.



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Comment :

List of Types [ Categories defined in German AfPS GS 2019:01 PAK] :		
Category	Category Description(s)	Type
1	Category 1: Materials intended for mouth contact or materials in toys according to European Parliament and Council Directive 2009/48/EC with long-term skin contact for more than 30 seconds or materials intended to use by children up to three years	I
2	Category 2: Materials which are not covered in Category 1 with foreseeable contact to skin longer than 30 seconds (Long-term skin contact) or repeated short-term skin contact	IIa <sup>[b]</sup> or IIb <sup>[c]</sup>
3	Category 3: Materials which are not covered in Category 1 or Category 2 with foreseeable skin contact up to 30 seconds (Short-term skin contact)	IIIa <sup>[b]</sup> or IIIb <sup>[c]</sup>
<sup>[b]</sup> denotes as products intend to use by children up to 14 years <sup>[c]</sup> denotes as other products according to German ProdSG		

## APPENDIX

List of Polycyclic Aromatic Hydrocarbons (PAHs) [ German AfPS GS 2019:01 PAK] :					
No.	Name of Analyte(s)	CAS-No.	No.	Name of Analyte(s)	CAS-No.
1	Benzo (a) pyrene	50-32-8	9	Benzo (g,h,i) perylene	191-24-2
2	Benzo (e) pyrene	192-97-2	10	Indeno (1,2,3-cd) pyrene	193-39-5
3	Benzo (a) anthracene	56-55-3	11	Phenanthrene	85-01-8
4	Benzo (b) fluoranthene	205-99-2	12	Pyrene	129-00-0
5	Benzo (j) fluoranthene	205-82-3	13	Anthracene	120-12-7
6	Benzo (k) fluoranthene	207-08-9	14	Fluoranthene	206-44-0
7	Chrysene	218-01-9	15	Naphthalene	91-20-3
8	Dibenzo (a,h) anthracene	53-70-3	-	-	-
CAS-No. = Chemical Abstracts Service registry number					

Remark: “\*” The above results were transferred from (9321)116-1223 dated on May 17, 2021.

END