

**DEKLARACJA ZGODNOŚCI WE
EC DECLARATION OF CONFORMITY**

My / We LAVA GROUP S.C./ Reiter Polska Sp. Z o.o.
(nazwa producenta/ manufacturer's name)

Ul. Eugeniusza Romera 4B, 02-784 Warszawa
(adres producenta / manufacturer's address)

niniejszym deklaruujemy, że następujący wyrób:
declare, under our responsibility, that the product:

TERMOS PRÓŻNIOWY (HFN01) wykonany ze stali nierdzewnej 304
(nazwa wyrobu / name of the article) (typ wyrobu / type or model) thermos made from stainless steel 304

Spełnia wymagania następujących norm:
to which this declaration relates is in conformity with the following standards:

DIN 10955: 2004-06;
EN 1186-1: 2002;
EN 1186-3: 2022;
EN 13130-1: 2004;
European Pharmacopeia 5.0, Ph. Eur. Method 2.5.5.;
(numer i data wydania normy / title, number and date of issue of the standards)

oraz jest zgodny z postanowieniami następujących rozporządzeń (dyrektyw):
(following the provisions of):

The EC 1935/2004;
The EU 10/2011
The (LFGB), Section 30 and 31;
The EC 2023/2006;

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Warszawa dnia 01.02.2024r.
(place and date)

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TEST REPORT

Technical Report : (6624) 023-0775
DATE : February 4, 2024
PAGE : 1 OF 3

Date of Submission: October 16, 2023
 Test Period: October 16, 2023 to February 4, 2024
 Sample Mode: Sample Presentation
 Sample Description: Sample(s) received is/are stated to be:
 A) WATER BOTTLE; COFFEE MUG; WATER BOTTLE; TRITAN BOTTLE; WATER BOTTLE
 PRIMO; NORDIC VACUUM FOOD THERMOS
 Test Item(s): Details see page 3

Color: / Model No./ Style No(s): HBTN01; HCM01; HBN02;
 HTR01; HBN03; HFN01
 Age Grade: / PO No.: /
 Vendor: / Supplier Reference: /
 Manufacturer: / Country of Origin: China
 End Buyer: / Country of Destination: Oversea Country

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Bisphenol A Contents for Plastic Materials in Contact with Foodstuffs – French Loi 2011-1442	DATA

- Note:
- 1) The tested part of the sample was specified by client.
 - 2) The test requested was specified by client.
 - 3) The test conclusion was given based on the results of tested part.
 - 4) Selected test was specified by client.
 - 5) The below results of item 1-10 are transferred from item 1-10 of (6623) 289-1055 dated November 6, 2023.

REMARK

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

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Bureau Veritas Consumer Products Service Shanghai Co., Ltd.

Laboratory Test Location:
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PREPARED BY : Amv

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Photo of the Tested Sample





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Technical Report : (6624) 023-0775
DATE : February 4, 2024
PAGE : 3 OF 3

TEST RESULT

Sample Description Assigned by Laboratory:

Test Item	Description	Client Claimed Material
1	Black plastic	PP
2	Grey plastic (2023-11-2 Second submission)	PP
3	Pink plastic (2023-11-2 Second submission)	ABS
4	Transparent silicone	Silicone
5	Black plastic	TPE
6	Pink plastic	Tritan
7	Black coating	Coating
8	Blue coating	Coating
9	Red coating	Coating
10	Black plastic	-
11	Pink coating (2024-2-1 Second submission)	Coating

Bisphenol A Contents for Plastic Materials in Contact with Foodstuffs – French Loi 2012-1442

Parameter	Unit	Result				Maximum Allowable Limit
		1	2	3	4	
Bisphenol A	mg/kg	<0.1	<0.1	<0.1	<0.1	Not Detected
Conclusion	-	DATA	DATA	DATA	DATA	-

Parameter	Unit	Result				Maximum Allowable Limit
		5	6	7	8	
Bisphenol A	mg/kg	<0.1	<0.1	<0.1	<0.1	Not Detected
Conclusion	-	DATA	DATA	DATA	DATA	-

Parameter	Unit	Result			Maximum Allowable Limit
		9	10	11	
Bisphenol A	mg/kg	<0.1	<0.1	<0.1	Not Detected
Conclusion	-	DATA	DATA	DATA	-

Note: “<” = less than

Method: Solvent extraction and analysis by Liquid Chromatograph Mass Spectrometer (LC-MS).

END



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TEST REPORT

Technical Report : (6624) 023-0773
DATE : January 24, 2024
PAGE : 1 OF 18

Date of Submission: October 16, 2023
 Test Period: October 16, 2023 to January 24, 2024
 Sample Mode: Sample Presentation
 Sample Description: Sample(s) received is/are stated to be:
 A) WATER BOTTLE; COFFEE MUG; WATER BOTTLE; TRITAN BOTTLE; WATER BOTTLE
 PRIMO; NORDIC VACUUM FOOD THERMOS
 Test Item(s): Details see page 3
 Color: / Model No./ Style No(s): HBTN01; HCM01; HBN02;
 HTR01; HBN03; HFN01
 Age Grade: / PO No.: /
 Vendor: / Supplier Reference: /
 Manufacturer: / Country of Origin: China
 End Buyer: / Country of Destination: Oversea Country

REMARK

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

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Consumer Products Service Shanghai Co., Ltd.**

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This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/>, and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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Technical Report : (6624) 023-0773
DATE : January 24, 2024
PAGE : 2 OF 18

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Overall Migration Test for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS
Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS
Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS
Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs – Council of Europe Resolution CM/Res(2013)9 and Article 3 of Regulation (EC) No. 1935/2004	PASS
Specific Migration of 2,2,4,4-Tetramethyl-1,3-cyclobutanediol(TMCD) for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS

- Note:
- 1) The tested part of the sample was specified by client.
 - 2) The test requested was specified by client.
 - 3) The test conclusion was given based on the results of tested part.
 - 4) Selected test was specified by client.
 - 5) The below results are transferred from (6623) 289-1053 dated October 23, 2023.



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Photo of the Tested Sample





TEST RESULT

Sample Description Assigned by Laboratory:

Test Item	Description	Client Claimed Material
1	Black plastic	PP
2	Grey plastic	PP
3	Silvery metal	-
4	Transparent silicone	Silicone
5	Black plastic	TPE
6	Pink plastic	Tritan
7	Whole sample	-
8	Whole sample	-
9	Whole sample	-
10	Whole sample	-
11	Whole sample	-

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

Test Condition: OM 3: 2h at 70 °C (50% Ethanol/ 3% Acetic acid)

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	5.54			-	-
Volume of stimulant used	mL	600			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	5.85			-	-
Volume of stimulant used	mL	550			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	3.06			-	-
Volume of stimulant used	mL	380			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-



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Technical Report : (6624) 023-0773
DATE : January 24, 2024
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TEST RESULT

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		5				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	1.00			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		6				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	3.79			-	-
Volume of stimulant used	mL	550			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Note: “<” = less than
mg/dm² = milligram per square decimeter
mg/kg = milligram per kilogram

Method: EN 1186-1: 2002; EN 1186-3: 2022

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.



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: 2h at 70 °C (3% Acetic acid)

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			1			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	1.77			-
Volume of stimulant used	-	mL	600			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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			-



TEST RESULT

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			2			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	2.06			-
Volume of stimulant used	-	mL	550			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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			-



TEST RESULT

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			5			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	0.60			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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 RESULT

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	3.75			-
Volume of stimulant used	-	mL	550			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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			-

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.

3) Due to the fact that SML for As, Cr, Pb, Hg is specified as not detectable meaning < 0.01 mg/kg and SML for Cd is specified as not detectable meaning < 0.002 mg/kg, assessment has to be performed using the 1st migrate in any case no matter whether article/materials is intended for single or repeated use.



TEST RESULT

Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments

Test Condition: 2 h at 70 °C (3% Acetic acid)

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		1			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	1.77			-
Volume of stimulant used	mg/kg	600			-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		1			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	1.77			-
Volume of stimulant used	mg/kg	600			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002



TEST RESULT

o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3'-dimethylazobenzene/ 4-o-tolyazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		2			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	2.06			-
Volume of stimulant used	mg/kg	550			-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		2			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	2.06			-
Volume of stimulant used	mg/kg	550			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002



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TEST RESULT

o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolylazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		5			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	0.60			-
Volume of stimulant used	mg/kg	100			-



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TEST RESULT

Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		5			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	0.60			-
Volume of stimulant used	mg/kg	100			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolyazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002



TEST RESULT

3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		6			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	3.75			-
Volume of stimulant used	mg/kg	550			-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		6			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	3.75			-
Volume of stimulant used	mg/kg	550			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-	mg/kg	<0.002	<0.002	<0.002	0.002



TEST RESULT

4,4'-diaminodiphenylmethane					
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolyazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

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

Method: EN 13130-1: 2004, LC-MS/ LC-MS/MS analysis.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.
2) PAA listed in entry 43 to Appendix 8 of Annex XVII to Regulation (EC) No 1907/2006 and 1,3-phenylenediamine are specified as not detectable meaning < 0.002 mg/kg. assessment has to be performed using the 1st migrate in any case no matter whether article/materials is intended for single or repeated use.



TEST RESULT

Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs – Council of Europe Resolution CM/Res(2013)9 and Article 3 of Regulation (EC) No. 1935/2004

Test Condition: 0.5 % Citric acid: 70 °C, 2hrs

Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) ^[a, b]
		3			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate ^[b]	
Filling volume	mL	400	400	-	-
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	0.00319	<0.002	<0.00519	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	-



TEST RESULT

Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) ^[a]
		3	
		3rd Migrate	
Filling volume	mL	400	-
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
Conclusion	-	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) ^[a] 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) ^[b] 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 2,2,4,4-Tetramethyl-1,3-cyclobutanediol(TMCD) for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments

Test Condition: 3% Acetic acid: 70 °C, 2 hrs

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit(3 rd)
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	3.79			-
Volume of simulant used	-	mL	550			-
2,2,4,4-Tetramethyl-1,3-cyclobutanediol(TMCD)	3% Acetic acid	mg/kg	<2.5	<2.5	<2.5	5
Conclusion	-	-	PASS			-

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

Method: EN 13130-1: 2004 and analysis by Gas Chromatograph Mass Spectrometer (GC-MS).

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.

END

ANNEX

Remark: The client declares that the above tested material except colorant will be used in below styles.





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TEST REPORT

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PAGE : 1 OF 20

APPLICANT:

Date of Submission: October 16, 2023
Test Period: October 16, 2023 to January 24, 2024
Sample Mode: Sample Presentation
Sample Description: Sample(s) received is/are stated to be:
A) WATER BOTTLE; COFFEE MUG; WATER BOTTLE; TRITAN BOTTLE; WATER BOTTLE
PRIMO; NORDIC VACUUM FOOD THERMOS
Test Item(s): Details see page 3

Color: / Model No./ Style No(s): HBTN01; HCM01; HBN02;
HTR01; HBN03; HFN01
Age Grade: / PO No.: /
Vendor: / Supplier Reference: /
Manufacturer: / Country of Origin: China
End Buyer: / Country of Destination: Oversea Country

REMARK

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

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Technical enquiry

Bureau Veritas 检验检测专用章
Consumer Products Service Shanghai Co., Ltd.

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SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Sensory Test (Odour and Taste) for Materials in Contact with Foodstuffs – EC No. 1935/2004 and § 30 and 31 LFGB and BfR Recommendation	PASS
Overall Migration Test for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS
Peroxides Value 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) No. 10/2011 and Its Amendments	PASS
Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS
Total Chromium, Hafnium, Vanadium and Zirconium Content for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS
Migration of Heavy Metals Contents for Metal in Contact with	PASS
Volatile Organic Matter Content for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS
Extractable Matter Content for Silicon in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation	PASS
Specific Migration of 2,2,4,4-Tetramethyl-1,3-cyclobutanediol(TMCD) for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments	PASS

- Note:
- 1) The tested part of the sample was specified by client.
 - 2) The test requested was specified by client.
 - 3) The test conclusion was given based on the results of tested part.
 - 4) Selected test was specified by client.
 - 5) The below results are transferred from (6623) 289-1051 dated October 24, 2023.



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Photo of the Tested Sample





TEST RESULT

Sample Description Assigned by Laboratory:

Test Item	Description	Client Claimed Material
1	Black plastic	PP
2	Grey plastic	PP
3	Silvery metal	-
4	Transparent silicone	Silicone
5	Black plastic	TPE
6	Pink plastic	Tritan
7	Whole sample	-
8	Whole sample	-
9	Whole sample	-
10	Whole sample	-
11	Whole sample	-

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
	7	8	
Odour transfer into foodstuff through simulant, Mineral water	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	2.5 Scale
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	9	10	
Odour transfer into foodstuff through simulant, Mineral water	0	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0	0	2.5 Scale
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	11		
Odour transfer into foodstuff through simulant, Mineral water	0		2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	0		2.5 Scale
Conclusion	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



TEST RESULT

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

Test Condition: OM 3: 2h at 70 °C (50% Ethanol/ 3% Acetic acid)

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		1				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	5.54			-	-
Volume of stimulant used	mL	600			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		2				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	5.85			-	-
Volume of stimulant used	mL	550			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		4				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	3.06			-	-
Volume of stimulant used	mL	380			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		5				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	1.00			-	-
Volume of stimulant used	mL	100			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-



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TEST RESULT

Simulant Used	Unit	Result			Maximum Allowable Limit (3 rd)	Analytical Tolerance
		6				
		1st Migrate	2nd Migrate	3rd Migrate		
Food contact surface area	dm ²	3.79			-	-
Volume of stimulant used	mL	550			-	-
50% Ethanol	mg/dm ²	<5	<5	<5	10	+2
3% Acetic acid	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Note: “<” = less than
mg/dm² = milligram per square decimeter
mg/kg = milligram per kilogram

Method: EN 1186-1: 2002; EN 1186-3: 2022

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.

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

Parameter	Result			Maximum Allowable Limit
	1	2	4	
Peroxides	Absent	Absent	Absent	Absent
Conclusion	PASS	PASS	PASS	-

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



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: 2h at 70 °C (3% Acetic acid)

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			1			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	1.77			-
Volume of stimulant used	-	mL	600			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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			-



TEST RESULT

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			2			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	2.06			-
Volume of stimulant used	-	mL	550			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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			-



TEST RESULT

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			5			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	0.60			-
Volume of stimulant used	-	mL	100			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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 RESULT

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	3.75			-
Volume of stimulant used	-	mL	550			-
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<4.8	<4.8	<4.8	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.06	<0.06	<0.06	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	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			-

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.
 3) Due to the fact that SML for As, Cr, Pb, Hg is specified as not detectable meaning < 0.01 mg/kg and SML for Cd is specified as not detectable meaning < 0.002 mg/kg, assessment has to be performed using the 1st migrate in any case no matter whether article/materials is intended for single or repeated use.



TEST RESULT

Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments

Test Condition: 2 h at 70 °C (3% Acetic acid)

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		1			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	1.77			-
Volume of stimulant used	mg/kg	600			-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		1			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	1.77			-
Volume of stimulant used	mg/kg	600			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002



TEST RESULT

o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3'-dimethylazobenzene/ 4-o-tolyazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		2			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	2.06			-
Volume of stimulant used	mg/kg	550			-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		2			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	2.06			-
Volume of stimulant used	mg/kg	550			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002



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o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolylazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		5			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	0.60			-
Volume of stimulant used	mg/kg	100			-



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TEST RESULT

Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		5			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	0.60			-
Volume of stimulant used	mg/kg	100			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolyazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002



TEST RESULT

3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		6			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	3.75			-
Volume of stimulant used	mg/kg	550			-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01(sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS			-

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result			Maximum Allowable Limit
		6			
		1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	mg/kg	3.75			-
Volume of stimulant used	mg/kg	550			-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-	mg/kg	<0.002	<0.002	<0.002	0.002



TEST RESULT

4,4'-diaminodiphenylmethane					
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolyazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS			-

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

Method: EN 13130-1: 2004, LC-MS/ LC-MS/MS analysis.

Remark: 1) The migration test is carried out according to EU regulation No. 10/2011 and the corresponding regulatory statutes.
2) PAA listed in entry 43 to Appendix 8 of Annex XVII to Regulation (EC) No 1907/2006 and 1,3-phenylenediamine are specified as not detectable meaning < 0.002 mg/kg. assessment has to be performed using the 1st migrate in any case no matter whether article/materials is intended for single or repeated use.



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	2	
Total Chromium (Cr)	mg/kg	<2	5.85	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
Conclusion	-	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.

Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

Test Condition: 0.5 % Citric acid: 70 °C, 2hrs

Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) ^[a, b]
		3			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate ^[b]	
Filling volume	mL	400	400	-	-
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	-



TEST RESULT

Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) ^[a]
		3	
		3rd Migrate	
Filling volume	mL	400	-
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
Conclusion	-	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) ^[a] 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) ^[b] denotes as the sum of the results of the first and second migrates should not be exceed seven times the SRL



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
		4	
Volatile Organic Matter	% (w/w)	0.32	0.5
Conclusion	-	PASS	-

Note: “<” = less than
% w/w = percent weight by weight

Method: Gravimetric method.

Remark: The limit refers to BfR Recommendation XV.

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

Parameter	Unit	Result	Maximum Allowable Limit
		4	
Extractable Matter	% w/w	<0.05	0.5
Conclusion	-	PASS	-

Note: “<” = less than
% w/w = percent weight by weight

Method: Gravimetric method after reflux for 5 hours with water.

Remark: The limit refers to BfR Recommendation XV.

Specific Migration of 2,2,4,4-Tetramethyl-1,3-cyclobutanediol(TMCD) for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments

Test Condition: 3% Acetic acid: 70 °C, 2 hrs

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit(3 rd)
			6			
			1st Migrate	2nd Migrate	3rd Migrate	
Food contact surface area	-	dm ²	3.79			-
Volume of simulant used	-	mL	550			-
2,2,4,4-Tetramethyl-1,3-cyclobutanediol(TMCD)	3% Acetic acid	mg/kg	<2.5	<2.5	<2.5	5
Conclusion	-	-	PASS			-

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

Method: EN 13130-1: 2004 and analysis by Gas Chromatograph Mass Spectrometer (GC-MS).

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.

END



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TEST RESULT

ANNEX

Remark: The client declares that the above tested material except colorant will be used in below styles.

Description
