Technical Report: Jun 20, 2023

Date Received: Jun 9, 2023

HSIANG,CHUANGHUA,TAIWAN

Sample Description:	PE CUTTING BAORD		
Vendor:		Sample Size:	7
Manufacturer:		Style No(s):	SEE ATTACHMENT
Labeled Age Grade:	NOT RECORD	SKN/SKU No.:	NOT PROVIDE
Appropriate Age Grade:	NOT REQUESTED	PO No.:	NOT PROVIDE
Client Specified Age Grade:	NOT SPECIFIED	Ref #:	NOT PROVIDE
Tested Age Grade:	N/A	Country of Origin:	TAIWAN
UPC Code:	N/A	Assortment No.:	NOT PROVIDE
Test Starting Date:	JUN 9, 2023	Test Finished Date:	JUN 20, 2023

EXECUTIVE SUMMARY:

Test Requested	Conclusion
Sensory Test (Odour and Taste) for Materials in Contact with Foodstuffs – EC No. 1935/2004 and § 30 and 31 LFGB	PASS
Overall Migration Test for Plastic Materials in Contact with Foodstuffs –§ 30 and 31 LFGB and BfR Recommendation Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.	PASS

To be continued

BUREAU VERITAS SHENZHEN CO.,LTD
DONGGUAN BRANCH

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REMARK

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

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EXECUTIVE SUMMARY:

Test Requested	Conclusion
Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs –§ 30 and 31 LFGB and BfR Recommendation Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.	PASS
Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – § 30 and 31 LFGB and BfR Recommendation Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.	PASS
Total Chromium, Hafnium, Vanadium and Zirconium Content for Plastic Materials in Contact with Foodstuffs – § 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

ATTACHMENT:

Style No(s):

0610-11 , 2025-00 , 2028-00 , 2030-02 , 3040-12 , 3050-00 , 2637-G0 , 0610-07 , 0811-01 , 0912-0L

1013-00 , 1016-0L , 2944-01 , 3550-03 , 2424-00 , 1218-5L , 1218-FL , 1218-0L , 1520-5L , 1520-0L

1824-5L , 1824-2L , 1824-G0 , 1830-0L , 3226-0M , 3040-10 , 4060-0M , 1218-0T , 1520-0T , 1824-0T , 3226-0T

3253-0T , 3253-G1 , 2030-0T , 3525-0T , 3040-1T , 3050-0T , 4060-1T , 4060-GT , 1830-0T , 2850-0Y

1218-0Y , 1520-0Y , 1824-0Y , 3040-0Y , 3050-GY , 4050-0K , R014-02 , R028-0T , R033-0T , R034-0T

R095-G0 , 3RP-010 , 3RP-012 , 3RP-014 , 3RP-016 , 3RP-018 , 3RP-020 , 3RP-050 , 0811-02 , 0811-03

0610-01 , 0610-G1 , 2030-G1 , 0812-G0 , 2634-G0 , 1014-G0 , 1016-G1 , 3040-G1 , 3346-G0 , 0610-12

3040-07 , 3550-G1 , 2637-G0 , 0610-00 , 0811-00 , 0812-00 , 3525-01 , 3040-01 , 3146-00 , 1218-G1

1117-G0 , 3040-05 , 3525-02 , 0912-1L, 1218-DL, 1218-1L, 1218-1T, 1824-1L, 1824-1T, 1218-2Y, 1218-1Y
1824-1Y, 3040-09, 3040-0T, 3050-1T, 3851-0T, 4060-2T, 4561-0Y, 3550-G2, 3226-1T, 3253-0L, 3253-1T, 3226-GL
3226-GT, 3253-GT, 1630-00, 0610-10, 0610-G0, A120521, A120522, A120523, A120524, A120526, A120527, A120528
A120529, A120531, A120532, A120533, A120534, A120537, A120538, A120539

Tested Component(s) Description List:

Test Item(s)	Item / Component Description(s)	Location(s)	Style(s)	
I001	White plastic	Cutting board	-	PE
I002	Yellow plastic	Cutting board	-	PE
I003	Red plastic	Cutting board	-	PE
I004	Brown plastic	Cutting board	-	PE
I005	Green plastic	Cutting board	-	PE
I006	Blue plastic	Cutting board	-	PE
I007	Purple plastic	Cutting board	-	PE

RESULTS:

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
	I001	I002	
Odour	1	1	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	1	1	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	1	1	
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	I003	I004	
Odour	1	1	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	1	1	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	1	1	
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	I005	I006	
Odour	1	1	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	1	1	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	1	1	
Conclusion	PASS	PASS	-

RESULTS:

Parameter	Result		Maximum Allowable Limit
	I007		
Odour	1		2.5 Scale
Taste transfer into foodstuff through simulant, Coconut fat	1		2.5 Scale
Taste transfer into foodstuff through simulant, Mineral water	1		
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

RESULTS:

Overall Migration Test for Plastic Materials in Contact with Foodstuffs –§ 30 and 31 LFGB and BfR Recommendation Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.

Test Condition:

Item Number	Test Number	Contact time in days [d] or hours [h]	Contact temperature in [°C]	Reflux (Yes[Y]/ No[N])	Simulant(s) used
I001-I007	OM3	2h	70	N	3% Acetic acid
I001-I007	OM3	2h	60	N	95% Ethanol
I001-I007	OM3	0.5h	40	N	Iso-octane

Simulant Used	Unit	Result I001			Maximum Allowable Limit	Analytical Tolerance
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result I002			Maximum Allowable Limit	Analytical Tolerance
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result I003			Maximum Allowable Limit	Analytical Tolerance
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		

Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		I004				
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		I005				
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		
Conclusion	-	PASS			-	-

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		I006				
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		
Conclusion	-	PASS			-	-

RESULTS:

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		I007				
Food contact surface area	dm^2	0.9			-	-
Volume of stimulant used	mL	150			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm^2	<5	<5	<5	10	+2
95% Ethanol	mg/dm^2	<5	<5	<5		
Iso-octane	mg/dm^2	<5	<5	<5		
Conclusion	-	PASS			-	-

Note: "<" = less than
mg/dm^2 = milligram per square decimeter

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 test result is shown in result table.

RESULTS:

Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs –§ 30 and 31 LFGB and BfR Recommendation Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.

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

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I001			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-

RESULTS:

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I002			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-

RESULTS:

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I003			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-

RESULTS:

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I004			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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	0.262	<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			-

RESULTS:

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I005			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-

RESULTS:

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I006			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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/or Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Conclusion	-	-	PASS			-

RESULTS:

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I007			
Food contact surface area	-	dm^2	0.9			-
Volume of stimulant used	-	mL	150			-
No. of Migrate	-	-	1st	2nd	3rd	-
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/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.

RESULTS:

Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs –§ 30 and 31 LFGB and BfR Recommendation Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.

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

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result		Maximum Allowable Limit
		I001	I002	
Food contact surface area	dm^2	0.9	0.9	-
Volume of stimulant used	mL	150	150	-
Aniline	mg/kg	<0.002	<0.002	0.01 (sum)
2,4-Dimethylaniline / 2,4-xylidine	mg/kg	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylidine	mg/kg	<0.002	<0.002	
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	
Conclusion	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		I003	I004	
Food contact surface area	dm^2	0.9	0.9	-
Volume of stimulant used	mL	150	150	-
Aniline	mg/kg	<0.002	<0.002	0.01 (sum)
2,4-Dimethylaniline / 2,4-xylidine	mg/kg	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylidine	mg/kg	<0.002	<0.002	
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	
Conclusion	-	PASS	PASS	-

RESULTS:

Parameter	Unit	Result		Maximum Allowable Limit
		I005	I006	
Food contact surface area	dm^2	0.9	0.9	-
Volume of stimulant used	mL	150	150	-
Aniline	mg/kg	<0.002	<0.002	0.01 (sum)
2,4-Dimethylaniline / 2,4-xylidine	mg/kg	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylidine	mg/kg	<0.002	<0.002	
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	
Conclusion	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		I007		
Food contact surface area	dm^2	0.9		-
Volume of stimulant used	mL	150		-
Aniline	mg/kg	<0.002		0.01 (sum)
2,4-Dimethylaniline / 2,4-xylidine	mg/kg	<0.002		
2,6-Dimethylaniline / 2,6-xylidine	mg/kg	<0.002		
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002		
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002		
2,6-Toluenediamine	mg/kg	<0.002		
1,5-Diaminenaphthalene	mg/kg	<0.002		
Conclusion	-	PASS		-

RESULTS:

Primary Aromatic Amines (PAAs)

Parameter	Unit	Result		Maximum Allowable Limit
		I001	I002	
Food contact surface area	dm^2	0.9	0.9	-
Volume of stimulant used	mL	150	150	-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<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
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<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
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<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
4,4'-thiodianiline	mg/kg	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	0.002
Conclusion	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		I003	I004	
Food contact surface area	dm^2	0.9	0.9	-
Volume of stimulant used	mL	150	150	-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<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
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<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
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<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
4,4'-thiodianiline	mg/kg	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	0.002
Conclusion	-	PASS	PASS	-

RESULTS:

Parameter	Unit	Result		Maximum Allowable Limit
		I005	I006	
Food contact surface area	dm^2	0.9	0.9	-
Volume of stimulant used	mL	150	150	-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<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
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<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
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<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
4,4'-thiodianiline	mg/kg	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	0.002
Conclusion	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		I007		
Food contact surface area	dm^2	0.9		-
Volume of stimulant used	mL	150		-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002		0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002		0.002
Benzidine	mg/kg	<0.002		0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002		0.002
4-Chloro-o-toluidine	mg/kg	<0.002		0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002		0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002		0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002		0.002
2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002		0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002		0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002		0.002
2,4-Toluenediamine	mg/kg	<0.002		0.002
3,3-Dimethylbenzidine	mg/kg	<0.002		0.002
2,4,5-Trimethylaniline	mg/kg	<0.002		0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002		0.002
2-naphthylamine	mg/kg	<0.002		0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolylazo-o-toluidine	mg/kg	<0.002		0.002
5-nitro-o-toluidine	mg/kg	<0.002		0.002
3,3'-dichlorobenzidine	mg/kg	<0.002		0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002		0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002		0.002
4,4'-thiodianiline	mg/kg	<0.002		0.002
4-amino azobenzene	mg/kg	<0.002		0.002
Conclusion	-	PASS		-

RESULTS:

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

Method: EN 13130-1: 2004, 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) For article intended for single use or repeated use, only single determination is carried out in the migration tests and the test result is shown in result table.

RESULTS:

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
		I001	I002	
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
Conclusion	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		I003	I004	
Total Chromium (Cr)	mg/kg	6.34	<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
Conclusion	-	PASS	PASS	-

Parameter	Unit	Result		Maximum Allowable Limit
		I005	I006	
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
Conclusion	-	PASS	PASS	-

RESULTS:

Parameter	Unit	Result		Maximum Allowable Limit
		I007		
Total Chromium (Cr)	mg/kg	<2		10
Total Hafnium (Hf)	mg/kg	<10		100
Total Vanadium (V)	mg/kg	<2		20
Total Zirconium (Zr)	mg/kg	<10		100
Conclusion	-	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.

RESULTS:

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

Parameter	Result		Maximum Allowable Limit
	I001	I002	
Peroxides	Absent	Absent	Absent
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	I003	I004	
Peroxides	Absent	Absent	Absent
Conclusion	PASS	PASS	-

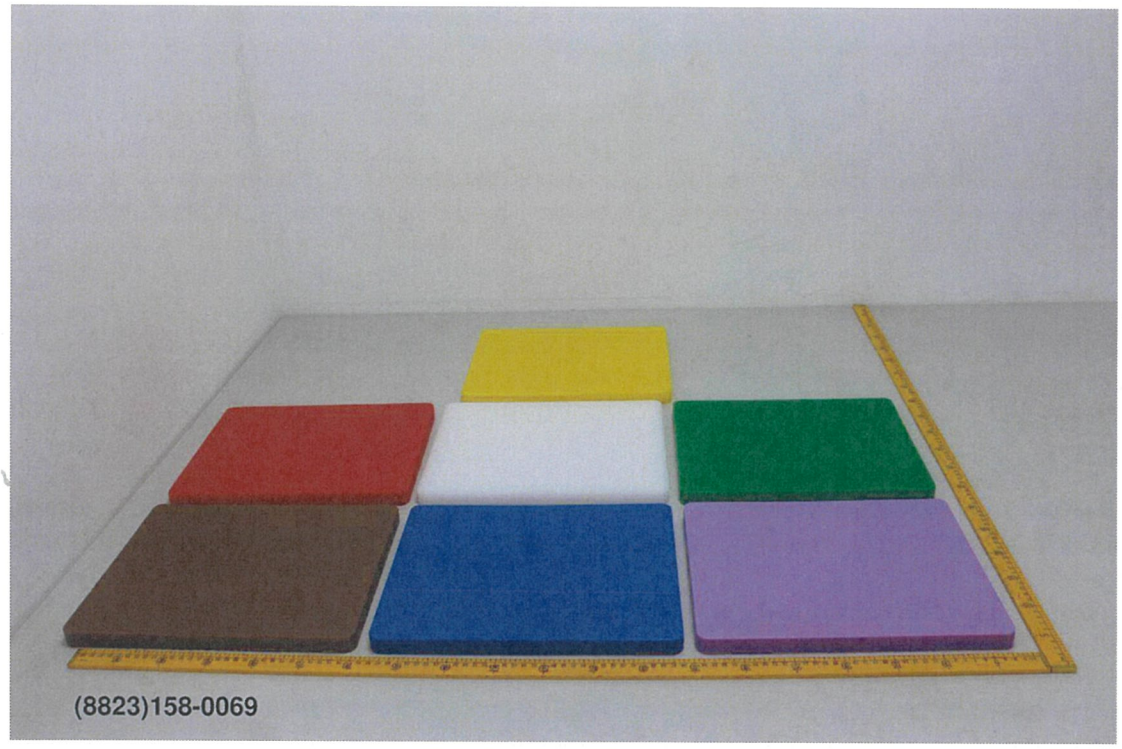
Parameter	Result		Maximum Allowable Limit
	I005	I006	
Peroxides	Absent	Absent	Absent
Conclusion	PASS	PASS	-

Parameter	Result		Maximum Allowable Limit
	I007		
Peroxides	Absent		Absent
Conclusion	PASS		-

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

Remark: The limit refers to BfR Recommendation VII.

RESULTS:



END OF REPORT