

Test Report No. NGBHG2105426102 Date: 30 Nov 2021 Page 1 of 8

AKOSTAR IMPORT & EXPORT CO.,LTD

ROOM 503, F/5, MINGZHOU BUILDING, NO. 289 JIANGNAN RD., YINZHOU, NINGBO, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as: 100% PLA COFFEE MUG

WITH ECO PRINTING

SGS Job No.: NBHL2111018653SD - NB

Supplier: AKOSTAR IMPORT & EXPORT CO.,LTD

Country of Origin: **CHINA**

Country of Destination: UK/EU/USA/AU/AISA

Style No.: 814 007

FIRST PERSON LTD / ECOFFEE CUP Buyer:

Date of Sample Received: 22 Nov 2021

22 Nov 2021 - 26 Nov 2021 Testing Period:

Test Requested: Selected test(s) as requested by client.

Test Method: Please refer to next page(s). Test Results: Please refer to next page(s).

Result Summary:

Test Requested	Conclusion
(EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation-Overall migration	PASS
Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004-Sensorial examination odour and taste test	PASS
(EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation -Specific migration of heavy metal	PASS
(EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation-Specific migration of primary aromatic amine (total)	PASS
Commission Regulation (EU) 2018/213 of 12 February 2018 amending Regulation (EU) No 10/2011- Total content of Bisphenol-A	PASS



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Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch



Sissie Peng Approved Signatory

Sissie Pene



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Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description Material (claimed by the client)

PLA SN₁ NGB21-054261.001 Off white PLA cup with black coating

Remarks:

(1) mg/dm² = milligram per square decimeter

(2) mg/kg = milligram per kilogram

(3) °C= degree Celsius

(4) < = less than

(5) MDL = Method Detection Limit

(6) ND = Not Detected (< MDL)

(EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation-Overall migration

Test Method: With reference to Commission Regulation (EU) No 10/2011 of 14 January 2011 Annex III and

Annex V for selection of condition and EN 1186-1:2002 for selection of test methods;

EN 1186-9: 2002 aqueous food simulants by article filling method;

Simulant Used	<u>Time</u>	<u>Temperature</u>	Max. Permissible Limit	Result of 001 Overall migration	Conclusion
3% Acetic acid (W/V) aqueous solution (Third migration)	2.0hr(s)	100°C	10mg/dm²	<3.0mg/dm²	PASS
3% Acetic acid (W/V) aqueous solution (Second migration)	2.0hr(s)	100°C	-	<3.0mg/dm²	
3% Acetic acid (W/V) aqueous solution (First migration)	2.0hr(s)	100°C	-	<3.0mg/dm²	VEO
Stability			-		YES
50% Ethanol (V/V) Aqueous Solution (Third migration)	2.0hr(s)	100°C	10mg/dm²	<3.0mg/dm²	PASS
50% Ethanol (V/V) Aqueous Solution (Second migration)	2.0hr(s)	100°C	-	<3.0mg/dm²	
50% Ethanol (V/V) aqueous solution (First migration)	2.0hr(s)	100°C	-	<3.0mg/dm²	
Stability			-		YES



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Notes:

(1) Analytical tolerance of aqueous simulants is 2 mg/dm².

(2) Test condition & simulant were specified by client.

Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004-Sensorial examination odour and taste test

Test Method: With reference to DIN 10955:2004

Test media: Distilled water

No. of panelist: 6

Test Item(s)	<u>Limit</u>	<u>001</u>
Test time(hr)	-	2
Temperature(°C)	-	100
Sensorial examination odour (Point scale)	2.5	0
Sensorial examination taste (Point scale)	2.5	0
Conclusion		PASS

Notes:

Scale evaluation:

0 – no perceptible difference

1 – just perceptible difference

2 - slight difference

3 - marked difference

4 - strong difference

(EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation -Specific migration of heavy metal

Test Method: With reference to EN13130-1:2004, analysis was performed by ICP-MS.

Sample 001

Simulant Used: 3% Acetic Acid (W/V) Aqueous Solution

100 °C 2.0 hr(s) Test Condition:

Test Item(s)	Max. Permissible	<u>Unit</u>	<u>MDL</u>	Test result
	<u>Limit</u>			
Migration times	-	-	-	First
Area/volume	-	dm²/kg	-	6.0
Arsenic(As)	ND	mg/kg	0.01	ND
Cadmium(Cd)	ND	mg/kg	0.002	ND
Chromium (Cr)	ND	mg/kg	0.01	ND



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Mercury(Hg)	ND	mg/kg	0.01	ND
Lead(Pb)	ND	mg/kg	0.01	ND
Aluminium (Al)	-	mg/kg	0.1	ND
Barium (Ba)	-	mg/kg	0.25	ND
Cobalt (Co)	-	mg/kg	0.01	ND
Copper (Cu)	-	mg/kg	0.25	ND
Iron(Fe)	-	mg/kg	5	ND
Lithium (Li)	-	mg/kg	0.1	ND
Manganese(Mn)	-	mg/kg	0.1	ND
Zinc(Zn)	-	mg/kg	0.5	ND
Nickel (Ni)	-	mg/kg	0.01	ND
Antimony (Sb)	-	mg/kg	0.01	ND
Europium (Eu)	-	mg/kg	0.025	ND
Gadolinium(Gd)	-	mg/kg	0.025	ND
Lanthanum(La)	-	mg/kg	0.025	ND
Terbium(Tb)	-	mg/kg	0.025	ND
Europium (Eu)+ Gadolinium(Gd)+ La Terbium(Tb)	anthanum(La)+ -	mg/kg	-	ND

Sample 001

Simulant Used: 3% Acetic acid (W/V) aqueous solution

100 °C 2.0 hr(s) Test Condition:

Test Item(s)	Max. Permissible	<u>Unit</u>	<u>MDL</u>	Test result
	<u>Limit</u>			
Migration times	-	-	-	Second
Area/volume	-	dm²/kg	-	6.0
Arsenic(As)	-	mg/kg	0.01	ND
Cadmium(Cd)	-	mg/kg	0.002	ND
Chromium(Cr)	-	mg/kg	0.01	ND
Mercury(Hg)	-	mg/kg	0.01	ND
Lead(Pb)	-	mg/kg	0.01	ND
Aluminium(Al)	-	mg/kg	0.1	ND
Barium(Ba)	-	mg/kg	0.25	ND
Cobalt(Co)	-	mg/kg	0.01	ND
Copper(Cu)	-	mg/kg	0.25	ND
Iron(Fe)	-	mg/kg	5	ND
Lithium(Li)	-	mg/kg	0.1	ND
Manganese(Mn)	-	mg/kg	0.1	ND
Zinc(Zn)	-	mg/kg	0.5	ND



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Nickel(Ni)	-	mg/kg	0.01	ND
Antimony(Sb)	-	mg/kg	0.01	ND
Europium (Eu)	-	mg/kg	0.025	ND
Gadolinium(Gd)	-	mg/kg	0.025	ND
Lanthanum(La)	-	mg/kg	0.025	ND
Terbium(Tb)	-	mg/kg	0.025	ND
Europium (Eu)+ Gadolinium(Gd)+ Terbium(Tb)	Lanthanum(La)+ -	mg/kg	-	ND

Sample 001

Simulant Used: 3% Acetic acid (W/V) aqueous solution

100 °C 2.0 hr(s) Test Condition:

Test Item(s)	Max. Permissible	<u>Unit</u>	<u>MDL</u>	Test result
A.C. C. C.	<u>Limit</u>			-
Migration times	-	-	-	Third
Area/volume	-	dm²/kg	-	6.0
Arsenic(As)	ND	mg/kg	0.01	ND
Cadmium(Cd)	ND	mg/kg	0.002	ND
Chromium(Cr)	ND	mg/kg	0.01	ND
Mercury(Hg)	ND	mg/kg	0.01	ND
Lead(Pb)	ND	mg/kg	0.01	ND
Aluminium(AI)	1	mg/kg	0.1	ND
Barium(Ba)	1	mg/kg	0.25	ND
Cobalt(Co)	0.05	mg/kg	0.01	ND
Copper(Cu)	5	mg/kg	0.25	ND
Iron(Fe)	48	mg/kg	5	ND
Lithium(Li)	0.6	mg/kg	0.1	ND
Manganese(Mn)	0.6	mg/kg	0.1	ND
Zinc(Zn)	5	mg/kg	0.5	ND
Nickel(Ni)	0.02	mg/kg	0.01	ND
Antimony(Sb)	0.04	mg/kg	0.01	ND
Europium (Eu)	-	mg/kg	0.025	ND
Gadolinium(Gd)	-	mg/kg	0.025	ND
Lanthanum(La)	-	mg/kg	0.025	ND
Terbium(Tb)	-	mg/kg	0.025	ND
Europium (Eu)+ Gadolinium(Gd)+ Lanthanum(La)+	0.05	mg/kg	-	ND
Terbium(Tb)				
Stability	-	-	-	YES
Conclusion				PASS



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Notes:

(1) Test condition & simulant were specified by client.

(EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation-Specific migration of primary aromatic amine (total)

Test Method: With reference to EN 13130-1: 2004, analysis was performed by UV-Vis.

Sample 001

Simulant Used: 3% Acetic Acid (W/V) Aqueous Solution

100 °C 2.0 hr(s) Test Condition:

Test Item(s)	Max. Permissible	<u>Unit</u>	<u>MDL</u>	Test result
	<u>Limit</u>			
Migration times	-	-	-	First
Area/volume	-	dm²/kg	-	6.0
Specific migration of primary aromatic amine	-	mg/kg	0.002	ND

Sample 001

Simulant Used: 3% Acetic acid (W/V) aqueous solution

100 °C 2.0 hr(s) Test Condition:

Test Item(s)	Max. Permissible	<u>Unit</u>	<u>MDL</u>	Test result
	<u>Limit</u>			
Migration times	-	-	-	Second
Area/volume	-	dm²/kg	-	6.0
Specific migration of primary aromatic amine	-	mg/kg	0.002	ND

Sample 001

Simulant Used: 3% Acetic acid (W/V) aqueous solution

100 °C 2.0 hr(s) Test Condition:

Test Item(s)	Max. Permissible	<u>Unit</u>	<u>MDL</u>	Test result
	<u>Limit</u>			
Migration times	-	-	-	Third
Area/volume	-	dm²/kg	-	6.0
Specific migration of primary aromatic amine	0.01	mg/kg	0.002	ND
Stability	-	-	-	YES
Conclusion				PASS



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Notes:

(1) Test condition & simulant were specified by client.

Commission Regulation (EU) 2018/213 of 12 February 2018 amending Regulation (EU) No 10/2011- Total content of Bisphenol-A

Test Method: With reference to Part II Section D2 of Testing Methods for Foodstuffs, Implements,

Containers and Packaging, Toys, Detergents, JETRO, Japan External Trade Organization,

2009 (Dichloromethane extraction by ultrasonic bath). Analysis was performed by

HPLC-FLD/LC-MS-MS.

Test Item(s) Limit <u>Unit</u> MDL *001* Bisphenol-A 0.1 mg/kg 0.1 ND Conclusion **PASS**

Sample photo:



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