

Flashbay Electronics
Building2, Jixun Industrial Park, Xinjiao,
Dong'ao Village, Shatian Town, Huiyang District,
Huizhou City, Guangdong Province, P.R. China

TEST REPORT

Test Report No. : **4393068.53** Version 1
Project No. : **4393068.00**
Test Report Date : **2022-08-24**

Job No. : 22-02447

Applicant : Flashbay Electronics
Building2, Jixun Industrial Park, Xinjiao, Dong'ao Village, Shatian Town,
Huiyang District, Huizhou City, Guangdong Province, P.R. China

Product Name : Travel Cups

Model No. : Espresso-EE

Test Requested : 1. Regulation (EC) No 1935/2004, Regulation (EU) 10/2011, EU
2020/1245 and its amendments
- Overall migration
- Specific migration of heavy metals
- Specific migration of Primary Aromatic Amine
2. Overall migration according to Council Europe Resolution AP (2004) 5
on Silicones Used for Food Contact Applications
3. Extractable heavy metals (23 elements) according to EU Technical
Guide Council of Europe Resolution CM/Res (2013)9 on metals and
alloys Used in Food Contact Materials and Articles
4. Council Europe Resolution AP (2004) 4 on Rubbers Used for Food
Contact Applications
- Overall migration
- Specific migration of primary aromatic amine
- N-Nitrosamines and N-Nitrosatable substances content

Test Method : Please refer to next pages


Sample Received : 2022-07-27 and 2022-08-09

Testing Period : 2022-07-27 to 2022-08-24

Test Results

- following pages -

Resume:

No.	Parameter	Sample photos
		
1.	Overall migration (EU 10/2011, EU 2020/1245)	PASS
2.	Specific migration of heavy metals (EU 10/2011, EU 2020/1245)	PASS
3.	Specific migration of Primary Aromatic Amine (EU 10/2011, EU 2020/1245)	PASS
4.	Overall migration (Resolution AP(2004) 5)	PASS
5.	Extractable heavy metals (23 elements) (Europe Resolution CM/Res(2013)9)	PASS
6.	Overall migration (Resolution AP(2004) 4)	PASS
7.	Specific migration of Primary Aromatic Amine (Resolution AP(2004) 4)	PASS
8.	N-Nitrosamines and N-Nitrosatable substances content (Resolution AP(2004) 4)	PASS

Guangzhou, August 24, 2022

Signed for and on behalf of

DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou branch

Chemical & Mechanical

Devin Ai
Assistant Manager

Attention: Please note that every statement made in this report is only valid for the samples tested and reported herein. This report shall not be reproduced except in full, without the written approval of the testing laboratory.

Sample Descriptions:

No.	Description(s)	Material(s) (claimed by applicant)
1.	Cup	SUS304
2.	Lid	PP (Black)
3.	Seal ring	Silicone (Black)
4.	Seal of lid	TPR (Black)

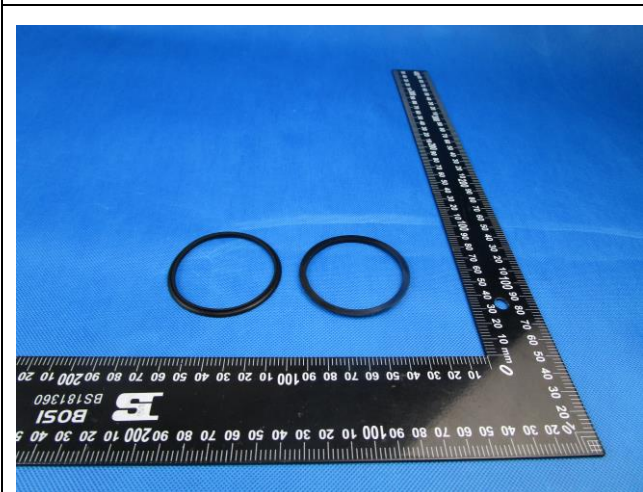
Sample photos



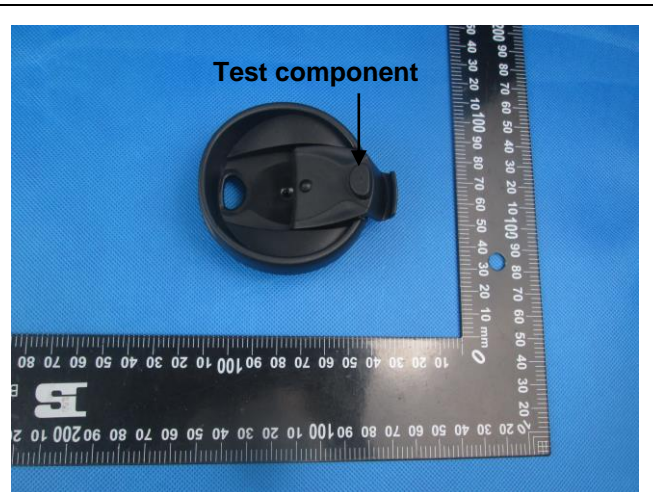
Test component (1)



Test component (2)



Test component (3)



Test component (4)

TEST RESULTS

1. Regulation (EC) No 1935/2004, Regulation (EU) 10/2011, EU 2020/1245 and its amendments

Overall migration

With reference to (EU) No.10/2011 and its amendments, analysis by method EN 1186-3: 2002.

Parameter	Test Condition	Result (mg/dm ²)			Limit (mg/dm ²)
		(2)			
		1 st	2 nd	3 rd	
Overall migration	50%(v/v) Ethanol, 100°C, 4 h	<3	<3	<3	10
	3%(w/v) Acetic acid, 100°C, 4 h	<3	<3	<3	10

Remark:

1. mg/dm² = milligram per square decimeter

Specific migration of heavy metals

With reference to (EU) No. 2020/1245 for selection of conditions and test method for specific migration. Analysis was performed by inductively coupled plasma optical emission spectrometer (ICP-OES) and inductively coupled plasma mass spectrometer (ICP-MS).

Parameter	Test Condition	Result (mg/kg)			MDL (mg/kg)	Limit (mg/kg)
		(2)				
		1 st	2 nd	3 rd		
Barium (Ba)	3%(w/v) Acetic acid, 100°C, 24 h	N.D.	N.D.	N.D.	0.1	1
Cobalt (Co)		N.D.	N.D.	N.D.	0.05	0.05
Copper (Cu)		N.D.	N.D.	N.D.	0.5	5
Iron (Fe)		N.D.	N.D.	N.D.	5.0	48
Lithium (Li)		N.D.	N.D.	N.D.	0.1	0.6
Manganese (Mn)		N.D.	N.D.	N.D.	0.1	0.6
Zinc (Zn)		N.D.	N.D.	N.D.	0.5	5
Aluminum (Al)		N.D.	N.D.	N.D.	0.5	1
Nickel (Ni)		N.D.	N.D.	N.D.	0.02	0.02
Antimony (Sb)		N.D.	N.D.	N.D.	0.01	0.04
Arsenic (As)		N.D.	N.D.	N.D.	0.01	N.D.
Cadmium (Cd)		N.D.	N.D.	N.D.	0.002	N.D.
Chromium (Cr)		N.D.	N.D.	N.D.	0.01	N.D.
Lead (Pb)		N.D.	N.D.	N.D.	0.01	N.D.

Parameter	Test Condition	Result (mg/kg)			MDL (mg/kg)	Limit (mg/kg)
		(2)				
		1 st	2 nd	3 rd		
Mercury (Hg)		N.D.	N.D.	N.D.	0.01	N.D.
Lanthanum (La)		N.D.	N.D.	N.D.	0.01	0.05
Europium (Eu)		N.D.	N.D.	N.D.	0.01	
Gadolinium (Gd)		N.D.	N.D.	N.D.	0.01	
Terbium (Tb)		N.D.	N.D.	N.D.	0.01	
Tungsten (W)		N.D.	N.D.	N.D.	0.01	0.05

Remark:

1. mg/kg = milligram per kilogram
2. N.D. = Not Detected (below MDL)
3. MDL = Method Detection Limit

Specific migration of Primary Aromatic Amine (PAA)

With reference to (EU) No. 2020/1245, analysis was performed by Liquid chromatography tandem mass spectrometry.

Parameter	Test Condition	Result (mg/kg)			MDL (mg/kg)	Limit (mg/kg)
		(2)				
		1 st	2 nd	3 rd		
4-Aminobiphenyl	3%(w/v) Acetic acid, 100°C, 24 h	N.D.	N.D.	N.D.	0.002	N.D.
Benzidine		N.D.	N.D.	N.D.	0.002	N.D.
4-Chloro-o-Toluidine		N.D.	N.D.	N.D.	0.002	N.D.
2-Naphthylamine		N.D.	N.D.	N.D.	0.002	N.D.
o-Aminoazotoluene		N.D.	N.D.	N.D.	0.002	N.D.
5-Nitro-o-toluidine		N.D.	N.D.	N.D.	0.002	N.D.
4-Chloro-Aniline		N.D.	N.D.	N.D.	0.002	N.D.
4-Methoxy-m-phenylenediamine		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Methylenedianiline		N.D.	N.D.	N.D.	0.002	N.D.
3,3'-Dichlorobenzidine		N.D.	N.D.	N.D.	0.002	N.D.
3,3'-Dimethoxybenzidine		N.D.	N.D.	N.D.	0.002	N.D.
3,3'-Dimethylbenzidine		N.D.	N.D.	N.D.	0.002	N.D.
4,4-Methylenedi-o-toluidine		N.D.	N.D.	N.D.	0.002	N.D.
2-Methoxy-5-Methylaniline		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Methylene bis(2-chloroaniline)		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Diaminodiphenylether		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Thioaniline	N.D.	N.D.	N.D.	0.002	N.D.	

Parameter	Test Condition	Result (mg/kg)			MDL (mg/kg)	Limit (mg/kg)
		(2)				
		1 st	2 nd	3 rd		
o-Toluidine		N.D.	N.D.	N.D.	0.002	N.D.
2,4-Toluenediamine		N.D.	N.D.	N.D.	0.002	N.D.
2,4,5-Trimethylaniline		N.D.	N.D.	N.D.	0.002	N.D.
o-Anisidine		N.D.	N.D.	N.D.	0.002	N.D.
4-Aminoazobenzol		N.D.	N.D.	N.D.	0.002	N.D.
Other PAAs		N.D.	N.D.	N.D.	0.002	0.01

Remark:

1. mg/kg = milligram per kilogram
2. N.D. = Not Detected (below MDL)
3. MDL = Method Detection Limit
4. Those analyses were performed in DEKRA's partner lab.

2. Overall migration according to Council Europe Resolution AP (2004) 5 on Silicones Used for Food Contact Applications

With reference to Resolution AP (2004) 5, analysis by method EN 1186-3: 2002.

Parameter	Test Condition	Result (mg/dm ²)			Limit (mg/dm ²)
		(3)			
		1 st	2 nd	3 rd	
Overall migration	50%(v/v) Ethanol, 100°C, 4 h	<3	<3	<3	10
	3%(w/v) Acetic acid, 100°C, 4 h	<3	<3	<3	10

Remark:

1. mg/dm² = milligram per square decimeter

3. Extractable heavy metals (23 elements) according to EU Technical Guide Council of Europe Resolution CM/Res(2013)9 on metals and alloys Used in Food Contact Materials and Articles

With reference to European Resolution CM/Res (2013)9 on metals and alloys used in food contact materials and articles. Analyzed by inductively coupled plasma optical emission spectrometer (ICP-OES) and inductively coupled plasma mass spectrometer (ICP-MS).

Parameter	Result(s) of 1 st + 2 nd Migration (mg/kg)	MDL (mg/kg)	Limit (mg/kg)
	(1)		
Aluminium (Al)	N.D.	0.2	35
Barium (Ba)	N.D.	0.2	8.4
Chromium (Cr)	0.151	0.1	1.75
Copper (Cu)	N.D.	0.2	28
Iron (Fe)	1.259	0.2	280
Manganese (Mn)	N.D.	0.2	12.6
Nickel (Ni)	N.D.	0.1	0.98
Molybdenum (Mo)	N.D.	0.1	0.84
Magnesium (Mg)	0.45	0.2	--
Titanium (Ti)	N.D.	0.2	--
Tin (Sn)	N.D.	2	700
Zinc (Zn)	N.D.	0.2	35
Beryllium (Be)	N.D.	0.02	0.07
Antimony (Sb)	N.D.	0.02	0.28
Mercury (Hg)	N.D.	0.004	0.021
Lithium (Li)	N.D.	0.02	0.336
Cobalt (Co)	N.D.	0.02	0.14
Silver (Ag)	N.D.	0.02	0.56
Lead (Pb)	N.D.	0.02	0.07
Vanadium (V)	N.D.	0.02	0.07
Arsenic (As)	N.D.	0.004	0.014
Cadmium (Cd)	N.D.	0.004	0.035
Thallium (Tl)	N.D.	0.0002	0.0007

Parameter	Result(s) of 3 rd Migration (mg/kg)	MDL (mg/kg)	Limit (mg/kg)
	(1)		
Aluminium (Al)	N.D.	0.1	5
Barium (Ba)	N.D.	0.1	1.2
Chromium (Cr)	N.D.	0.05	0.25
Copper (Cu)	N.D.	0.1	4
Iron (Fe)	0.120	0.1	40
Manganese (Mn)	N.D.	0.1	1.8
Nickel (Ni)	N.D.	0.05	0.14
Molybdenum (Mo)	N.D.	0.05	0.12
Magnesium (Mg)	N.D.	0.1	--
Titanium (Ti)	N.D.	0.1	--
Tin (Sn)	N.D.	1	100
Zinc (Zn)	N.D.	0.1	5
Beryllium (Be)	N.D.	0.01	0.01

Parameter	Result(s) of 3 rd Migration (mg/kg)	MDL (mg/kg)	Limit (mg/kg)
	(1)		
Antimony (Sb)	N.D.	0.01	0.04
Mercury (Hg)	N.D.	0.002	0.003
Lithium (Li)	N.D.	0.01	0.048
Cobalt (Co)	N.D.	0.01	0.02
Silver (Ag)	N.D.	0.01	0.08
Lead (Pb)	N.D.	0.01	0.01
Vanadium (V)	N.D.	0.01	0.01
Arsenic (As)	N.D.	0.002	0.002
Cadmium (Cd)	N.D.	0.002	0.005
Thallium (Tl)	N.D.	0.0001	0.0001

Remark:

1. mg/kg = milligram per kilogram
2. N.D. = Not Detected (below MDL)
3. MDL = Method Detection Limit
4. The test condition was 0.5% Citric acid at 100°C for 24 h.

4. Council Europe Resolution AP (2004) 4 on Rubbers Used for Food Contact Applications

Overall migration

With reference to Resolution AP (2004) 4, analysis by method EN 1186-3: 2002.

Parameter	Test Condition	Result (mg/kg)			Limit (mg/kg)
		(4)			
		1 st	2 nd	3 rd	
Overall migration	50%(v/v) Ethanol, 100°C, 4 h	<10	<10	<10	60
	3%(w/v) Acetic acid, 100°C, 4 h	<10	<10	<10	60

Remark:

1. mg/dm² = milligram per square decimeter

Specific migration of Primary Aromatic Amine (PAA)

With reference to Resolution AP (2004) 4, analysis was performed by Liquid chromatography tandem mass spectrometry.

Parameter	Test Condition	Result (mg/kg)			MDL (mg/kg)	Limit (mg/kg)
		(4)				
		1 st	2 nd	3 rd		
4-Aminobiphenyl	3%(w/v) Acetic acid, 100°C, 24h	N.D.	N.D.	N.D.	0.002	N.D.
Benzidine		N.D.	N.D.	N.D.	0.002	N.D.
4-Chloro-o-Toluidine		N.D.	N.D.	N.D.	0.002	N.D.
2-Naphthylamine		N.D.	N.D.	N.D.	0.002	N.D.
o-Aminoazotoluene		N.D.	N.D.	N.D.	0.002	N.D.
5-Nitro-o-toluidine		N.D.	N.D.	N.D.	0.002	N.D.
4-Chloro-Aniline		N.D.	N.D.	N.D.	0.002	N.D.
4-Methoxy-m-phenylenediamine		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Methylenedianiline		N.D.	N.D.	N.D.	0.002	N.D.
3,3'-Dichlorobenzidine		N.D.	N.D.	N.D.	0.002	N.D.
3,3'-Dimethoxybenzidine		N.D.	N.D.	N.D.	0.002	N.D.
3,3'-Dimethylbenzidine		N.D.	N.D.	N.D.	0.002	N.D.
4,4-Methylenedi-o-toluidine		N.D.	N.D.	N.D.	0.002	N.D.
2-Methoxy-5-Methylaniline		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Methylene bis(2-chloroaniline)		N.D.	N.D.	N.D.	0.002	N.D.
4,4-Diaminodiphenylether		N.D.	N.D.	N.D.	0.002	N.D.
4,4'-Thioaniline		N.D.	N.D.	N.D.	0.002	N.D.
o-Toluidine		N.D.	N.D.	N.D.	0.002	N.D.
2,4-Toluenediamine		N.D.	N.D.	N.D.	0.002	N.D.
2,4,5-Trimethylaniline		N.D.	N.D.	N.D.	0.002	N.D.
o-Anisidine	N.D.	N.D.	N.D.	0.002	N.D.	
4-Aminoazobenzol	N.D.	N.D.	N.D.	0.002	N.D.	
Other PAAs	N.D.	N.D.	N.D.	0.002	0.01	

Remark:

1. mg/kg = milligram per kilogram
2. N.D. = Not Detected (below MDL)
3. MDL = Method Detection Limit
4. Those analyses were performed in DEKRA's partner lab.

N-Nitrosamines and N-Nitrosatable substances content

With reference to Resolution AP (2004) 4, analysis was performed by gas chromatographic-mass spectrometer.

Test Item	Result (mg/kg)	Limit (mg/kg)
	(4)	
N-Nitrosamines	<0.01	0.01
N-Nitrosatable substances	<0.1	0.1

Remark:

1. mg/kg = milligram per kilogram

---End of Report---