



FLASHBAY ELECTRONICS

Technical Report: (8821)050-0012

Mar 4, 2021

Date Received: Feb 19, 2021

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FLASHBAY ELECTRONICS
BUILDING 2, JIXUN INDUSTRIAL PARK, DONG'AO
VILLAGE, SHATIAN TOWN, HUIYANG DISTRICT,
HUIZHOU CITY, GUANGDONG PROVINCE, P.R.CHINA

Sample Description:	WATER BOTTLES	Sample Size:	1
Vendor:	N/A	Style No(s):	Traveler-TL
Manufacturer:	N/A	SKN/SKU No.:	NOT PROVIDE
Labeled Age Grade:	NOT RECORD	PO No.:	NOT PROVIDE
Appropriate Age Grade:	NOT REQUESTED	Ref #:	NOT PROVIDE
Client Specified Age Grade:	NOT SPECIFIED		
Tested Age Grade:	N/A	Country of Origin:	NOT PROVIDE
UPC Code:	N/A	Assortment No.:	NOT PROVIDE
Test Starting Date:	FEB 19, 2021	Test Finished Date:	MAR 4, 2021

EXECUTIVE SUMMARY:

The sample(s) MEETS the following requirement(s):

- Overall Migration Test for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.
- Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.
- Overall Migration Test for Silicone in Contact with Foodstuffs – Council of Europe, Resolution ResAP(2004)5.
- Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs.
- Closures with Sealing Gaskets for Food Containers – U.S. FDA 21 CFR 177.1210.
- FDA / GRAS Evaluation



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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Tested Component(s) Description List:

Test Item(s)	Item / Component Description(s)	Location(s)	Style(s)	Client Claimed Material
I001	Transparent plastic	Lid	-	Tritan
I002	Transparent soft plastic	Gasket	-	Silicone
I003	Silver metal	Cup body	-	SUS304



RESULTS:

Overall Migration Test for Plastic Materials in Contact with Foodstuffs – 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 [oC]	Reflux (Yes[Y]/No[N])	Simulant(s) used
I001	OM3	2 h	70	N	3% Acetic acid
I001	OM3	2 h	70	N	50% Ethanol

Simulant Used	Unit	Result			Maximum Allowable Limit	Analytical Tolerance
		I001				
Food contact surface area	dm ²	2.68			-	-
Volume of stimulant used	mL	350			-	-
No. of Migrate	-	1st	2nd	3rd	-	-
3% Acetic acid	mg/dm ²	<5	<5	<5	10	+2
50% Ethanol	mg/dm ²	<5	<5	<5		
Conclusion	-	PASS			-	-

Note: “<” = less than
 mg/dm² = 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 – Commission Regulation (EU) No. 10/2011 and Its Amendments (EU) 2020/1245, etc.

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

Parameter	Simulant Used	Unit	Result			Maximum Allowable Limit
			I001			
Food contact surface area	-	dm ²	2.68			-
Volume of stimulant used	-	mL	350			-
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:

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.

Overall Migration Test for Silicone in Contact with Foodstuffs – Council of Europe, Resolution ResAP(2004)5

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

Simulant Used	Unit	Result	Maximum Allowable Limit	Analytical Tolerance
		I002		
Food contact surface area	dm ²	2.12	-	-
Volume of stimulant used	mL	350	-	-
3% Acetic acid	mg/dm ²	<5	10	+2
50% Ethanol	mg/dm ²	<5		
Conclusion	-	PASS	-	-

Note: "<" = less than
mg/dm² = 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 third test result is shown in result table.



RESULTS:

Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

Test Condition : 0.5 % Citric acid: 70 oC, 2 hr

Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs)[a, b]
		I003			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate[b]	
Filling volume	cm ³	350	350	350	-
Volume of stimulant used	mL	350	350	350	-
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	084
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	098
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	<0.002	<0.002	<0.002	0.07
Zinc (Zn)	mg/kg	<1	<1	<1	35
Arsenic (As)	mg/kg	<0.001	<0.001	<0.001	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	<0.0004	<0.0004	<0.0004	0.021
Thallium (Tl)	mg/kg	<0.00005	<0.00005	<0.00005	0.0007
Conclusion	-	-	-	PASS	-



RESULTS:

Parameter	Unit	Result		Maximum Specific Release Limit(s) (SRLs)[a]
		I003	3rd Migrate	
Filling volume	cm3	350		-
Volume of stimulant used	mL	350		-
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	<0.002		0.01
Zinc (Zn)	mg/kg	<1		5
Arsenic (As)	mg/kg	<0.001		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		0.010
Lithium (Li)	mg/kg	<0.01		0.048
Mercury (Hg)	mg/kg	<0.0004		0.003
Thallium (Tl)	mg/kg	<0.00005		0.0001
Conclusion	-	PASS		-



RESULTS:

Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

Test Condition : Artificial tap water: 70 oC, 2 hrs

Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs)[a, b]
		I003			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate[b]	
Filling volume	cm3	350	350	350	-
Volume of stimulant used	mL	350	350	350	-
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	084
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	098
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	<0.002	<0.002	<0.002	0.07
Zinc (Zn)	mg/kg	<1	<1	<1	35
Arsenic (As)	mg/kg	<0.001	<0.001	<0.001	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	<0.0004	<0.0004	<0.0004	0.021
Thallium (Tl)	mg/kg	<0.00005	<0.00005	<0.00005	0.0007
Conclusion	-	-	-	PASS	-



RESULTS:

Parameter	Unit	Result		Maximum Specific Release Limit(s) (SRLs)[a]
		I003		
		3rd Migrate		
Filling volume	cm3	350		-
Volume of stimulant used	mL	350		-
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	<0.002		0.01
Zinc (Zn)	mg/kg	<1		5
Arsenic (As)	mg/kg	<0.001		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		0.010
Lithium (Li)	mg/kg	<0.01		0.048
Mercury (Hg)	mg/kg	<0.0004		0.003
Thallium (Tl)	mg/kg	<0.00005		0.0001
Conclusion	-	PASS		-



RESULTS:

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) Artificial tap water was prepared according to German Standard DIN 10531: 2011-06.

4) [b] denotes as the sum of the results of the first and second migrates should not be exceed seven times the SRL.



RESULTS:

Closures with Sealing Gaskets for Food Containers – U.S. FDA 21 CFR 177.1210

Test Method : U.S. FDA 21 CFR 177.1210

Condition of use: C) Hot filled or pasteurized above 150°F
 Extracting condition: Distilled Water (Fill boiling, cool to 100 °F)
 n-Heptane (120 °F, 15 min.)

Parameter	Unit	Result		Limit
		I002		
Net Chloroform- Soluble Extractives				
(i) Distilled Water	ppm	<10		≤ 50
(ii) n-Heptane	ppm	<10		≤ 250
Conclusion	-	PASS		-

Note / key:

- ppm = parts per million
- "<" = less than
- "≤" = less than or equal to

Remark:

Maximum extractives tolerances of different types of closure-sealing gasket composition

Type of closure-sealing gasket composition	Maximum Extractives Tolerances (in ppm)		
	Chloroform fraction of water extractives	Chloroform fraction of heptane extractives	Chloroform fraction of alcohol extractives
1. Plasticized polymers, including unvulcanized or vulcanized or otherwise cured natural and synthetic rubber formed in place as overall discs or annular rings from a hot melt, solution, plastisol, organisol, mechanical dispersion, or latex	50	500	50
2. Performed overall discs or annular rings of plasticized polymers, including unvulcanized natural or synthetic rubber	50	250	50
3. Performed overall discs or annular rings of vulcanized plasticized polymers, including natural or synthetic rubber	50	50	50
4. Performed overall discs or annular rings of polymeric or resinous-coated paper, paperboard, plastic, or metal foil substrates	50	250	50
5. Closures with sealing gaskets or sealing compositions as described in 1 ,2 , 3and 4, and including paper, paperboard, and glassine used for dry foods only	Not applicable	Not applicable	Not applicable



RESULTS:

FDA / GRAS Evaluation ^

Test Item I003: Silvery metal of cup

Result: The sample I003 was identified as AISI 304.

Conclusion: The result for this sample is considered as FDA/GRAS

Method: Sample was analyzed by Spark Spectrometer.

Arc Spectrometer Data Sheet		
AISI 304 FDA/GRAS		
ELEMENTS	REQUIRED (%)	RECORDED (%)
		I003
C	0.08max	0.064
Si	1.0max	0.40
Mn	2.0max	1.17
P	0.045max	0.041
S	0.03max	0.016
Cr	18.0-20.0	18.48
Ni	8.0-10.5	8.05
Mo	/	0.055
Cu	/	0.094

Remark:

“^”The above result was performed at Bureau Veritas (Shenzhen) laboratory.

RESULTS:



END OF REPORT