

FLASHBAY ELECTRONICS

Technical Report:	
Date Received:	

(8821)050-0012 Feb 19, 2021

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		
Vendor:	N/A	Sample Size:	1
Manufacturer:	N/A	Style No(s):	Traveler-TL
Labeled Age Grade:	NOT RECORD	SKN/SKU No.:	NOT PROVIDE
Appropriate Age Grade:	NOT REQUESTED	PO No.:	NOT PROVIDE
Client Specified Age	NOT SPECIFIED	Ref #:	NOT PROVIDE
Grade:			
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

Harvey Xue Manager, Analytical Lab

RT/ Joy Li REMARK

If there are questions or concerns on this report, please contact the following persons: Report Enquiry: (86) 0769 89952999 Ext. 8175 CPSAnalytical.DG@bureauveritas.com Business Contact: (86) 0769 85893595 This report shall not be reproduced except in full, without the written approval of our laboratory.

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Tested Component(s) Description List:

Test Item(s)	Item / Component Description(s)	Location(s)	Style(s)	Client Claimed Material
1001	Transparent plastic	Lid	-	Tritan
1002	Transparent soft plastic	Gasket	-	Silicone
1003	Silver metal	Cup boby	-	SUS304



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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	Contact	Reflux (Yes[Y]/	Simulant(s)
		[d] or hours [h]	temperature in [oC]	No[N])	used
1001	OM3	2 h	70	N	3% Acetic acid
1001	OM3	2 h	70	N	50% Ethanol

Simulant Llood	Lloit	Result			Maximum Allawahla Limit	Analytical Tolerance	
Simulant Useu	Unit	1001			Maximum Allowable Limit		
Food contact surface area	dm2	2.68			-	-	
Volume of stimulant used	mL	350			-	-	
No. of Migrate	-	1st	2nd	3rd	-	-	
3% Acetic acid	mg/dm2	<5	<5	<5	10	+2	
50% Ethanol	mg/dm2	<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.



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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
Food contact surface				1001		
area	-	dm2		2.68		-
Volume of stimulant used	-	mL		350		-
No. of Migrate	-	-	1st	2nd	3r	d -
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	<0.00	2 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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RESULTS:

Test Condition

:

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

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

OM 3: 2 h at 70 oC (50% Ethanol)							
Circulant Hand	11	Result	Maximum Allowable Limit	Analytical Tolerance			
Simulant Used	Unit	1002					
Food contact surface area	dm2	2.12	-	-			
Volume of stimulant used	mL	350	-	-			
3% Acetic acid	mg/dm2	<5	10	.0			
50% Ethanol	mg/dm2	<5	10	+2			
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.



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RESULTS:

Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

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

	n				
			Coven Times of		
			1003		Maximum Specific
Parameter	Unit	1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate[b]	Release Limit(s) (SRLs)[a, 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 (TI)	mg/kg	<0.00005	<0.00005	<0.00005	0.0007
Conclusion	-	-	-	PASS	-



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RESULTS:

		Result	
Parameter	Unit	1003	Maximum Specific Release Limit(s) (SRLs)[a]
		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 (TI)	mg/kg	<0.00005	0.0001
Conclusion	-	PASS	-



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RESULTS:

Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

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

			Popult		
					Seven Times of
Parameter	Unit	1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate[b]	Maximum Specific Release Limit(s) (SRLs)[a, 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 (TI)	mg/kg	<0.00005	<0.00005	<0.00005	0.0007
Conclusion	-	-	-	PASS	-



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RESULTS:

	Result				
Parameter	Unit	1003	Maximum Specific Release Limit(s) (SRLs)[a]		
		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 (TI)	mg/kg	<0.00005	0.0001		
Conclusion	-	PASS	-		



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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.



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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 Extracting condition: D

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

Deverseter	Linit	Result	Linsit
Parameter	Unit	1002	Limit
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

" \leq " = less than or equal to

Remark:

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

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



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RESULTS:

FDA / GRAS Evaluation ^

Test Item 1003: 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		RECORDED (%)	
		1003	
С	0.08max	0.064	
Si	1.0max	0.40	
Mn	2.0max	1.17	
Р	0.045max	0.041	
S	0.03max	0.016	
Cr	18.0-20.0	18.48	
Ni	8.0-10.5	8.05	
Мо	/	0.055	
Cu	/	0.094	

Remark:

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



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RESULTS:



END OF REPORT