

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **1 / 9**

Applicant : ZHEJIANG XXL INDUSTRY AND TRADE CO., LTD
Address : HUZHAILONG INDUSTRY AREA, JIAODAO TOWN, WUYI CITY,
JINHUA CITY, ZHEJIANG PROVINCE, CHINA

Below information submitted by the applicant:

Product Name : 1,Stainless Steel Vacuum Bottle,
2,Coffee Bottle,
3,Glass Bottle
Model : XL-0023
Model may cover : XL-2780, XLG-110, XLG-201
Reference info. : /
Manufacturer info. : /
Supplier info. : /
Buyer info. : /
Country of Destination : /
Country of Origin : China

Sample Received : 11.17, 2020
Test Period : 11.17, 2020 – 11.23, 2020
Test Requirement : Refer to next pages
Test Method : Refer to next pages
Test Result : Refer to next pages
Test Conclusion : Refer to next pages

Signed for and on behalf of
Jordan Wang, General Manager
BU Chemical Compliance
TUV THURINGEN (SHANGHAI) CO., LTD.
Location: Shanghai

TÜV Thüringen CHINA

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **2 / 9**

RESULT SUMMARY

Food contact materials in accordance with General Requirement (Article 3) in EU Regulation No. 1935/2004, 84/500/EEC and 2005/31/EC, Commission Regulation (EU) No 10/2011 and its subsequent amendment Regulation EU No.321/2011, No.1282/2011, No.1183/2012, No.202/2014, No.865/2014, No. 2015/174, No.2016/1416, No.2017/752, No.2018/79, No.2018/213, No.2019/37 on plastic materials and articles intended to come into contact with foodstuffs, Technical Guide on Metals and Alloys used in food contact materials and articles of the 1st edition in 2013, test items as below:

Test Items	Conclusion
1. overall migration; soluble heavy metal; specific migration of primary aromatic amine, specific migration of bisphenol A, specific migration of phthalates for PP materials	PASS
2. overall migration; soluble heavy metal; specific migration of primary aromatic amine, specific migration of bisphenol A, specific migration of phthalates, peroxide value, volatile organic matter for Silicone materials	PASS
3. extractable 23 heavy metals for metal materials	PASS
4. Leachable Lead and Cadmium content for Glass materials	PASS
5. Bisphenol A content for all polymer materials	PASS

SAMPLE DESCRIPTION

Sample Description	: 1#. Black PP
	2#. Semi-transparent Silicone Ring
	3#. Silvery Stainless Steel Bottle
	4#. Transparent Glass Bottle

TEST RESULT(S)

1, Overall migration test

Test method:

EN 1186-1:2002 guide to the selection of conditions and test methods for overall migration

EN 1186-3:2002 test methods for overall migration into aqueous food simulants by total immersion

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Test Media	3% acetic acid		---
Temperature, °C	100.0	100.0	---
Contact Time, hour	4.0	4.0	---
Overall migration test, mg/dm ²	<3.0	<3.0	10, max
Comment(s)	PASS	PASS	---

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Test Media	10% Ethanol		---
Temperature, °C	100.0	100.0	---
Contact Time, hour	4.0	4.0	---
Overall migration test, mg/dm ²	<3.0	<3.0	10, max
Comment(s)	PASS	PASS	---

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **3 / 9**

2, specific migration of heavy metal

Test Method: with reference to EN 13130-1:2004, followed by analysis using ICP-OES

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Test Media	3% acetic acid		---
Temperature, °C	100.0	100.0	---
Contact Time, hour	4.0	4.0	---
Soluble Aluminum, mg/kg	<0.05	<0.05	1, max
Soluble Barium, mg/kg	<0.05	<0.05	1, max
Soluble Cobalt, mg/kg	<0.01	<0.01	0.05, max
Soluble Copper, mg/kg	<0.05	<0.05	5, max
Soluble Iron, mg/kg	<0.25	<0.25	48, max
Soluble Lithium, mg/kg	<0.05	<0.05	0.6, max
Soluble Manganese, mg/kg	<0.05	<0.05	0.6, max
Soluble Zinc, mg/kg	<0.25	<0.25	5, max
Soluble Nickel, mg/kg	<0.02	<0.02	0.02, max
Soluble Tungsten, mg/kg	<0.02	<0.02	0.05, max
Comment(s)	PASS	PASS	---

3, Specific migration test of primary aromatic amine

Test method: Sample preparation with reference to EN 13130-1:2004, followed by analysis with reference to DIN 55610:1986.

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Test Media	3% acetic acid		---
Temperature, °C	100.0	100.0	---
Contact Time, hour	4.0	4.0	---
Specific migration of primary aromatic amine, mg/kg	<0.01	<0.01	0.01, max
Comment(s)	PASS	PASS	---

4, Specific Migration of Bisphenol A

Test Method: sample preparation with reference to EN 13130-1:2004, EN 13130-3:2004, analysis by GC/MS

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Test Media	3% acetic acid		---
Temperature, °C	100.0	100.0	---
Contact Time, hour	4.0	4.0	---
Specific migration of Bisphenol A, mg/kg	<0.05	<0.05	0.05, max

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **4 / 9**

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Comment(s)	PASS	PASS	---

5, Specific migration of softeners and phthalates

Test Method: Sample preparation with reference to EN 13130-1:2004, followed by analysis with GC/MS

Test Parameter	Test Results		Permissible Limit
	1#	2#	
Test Media	3% Acetic acid		---
Temperature, °C	100.0	100.0	---
Contact Time, hour	4.0	4.0	---
Specific migration of DEHP, mg/kg	<0.05	<0.05	1.5, max
Specific migration of DBP, mg/kg	<0.05	<0.05	0.3, max
Specific migration of BBP, mg/kg	<0.05	<0.05	30, max
Specific migration of DINP, mg/kg	<0.05	<0.05	9, max
Specific migration of DIDP, mg/kg	<0.05	<0.05	9, max
Specific migration of DEHT, mg/kg	<0.05	<0.05	60, max
Specific migration of DEHA, mg/kg	<0.05	<0.05	18, max
Specific migration of other phthalates and softeners, mg/kg	<0.05	<0.05	0.05, max
Comment(s)	PASS	PASS	---

6, Peroxide value

Test Method: with reference to European Pharmacopoeia, 2005 Appendix XF, Peroxide Value method A

Test Parameter	Units	MDL	Test Results	Permissible Limit
			2#	
Peroxide value	---	---	Neg.	Negative

7, Volatile organic matter (VOM)

Test Method: with reference to LFGB BfR Part B Part II section XV, May 2003 and LFGB section 35 B80.30 1(EG)

Test Condition: 4hours at 100°C

Test Parameter	Units	MDL	Test Results	Permissible Limit
			2#	
Volatile organic matter	%	0.01	0.29	0.50, max

8, Specific release heavy metals – CM/Res(2013)9

Test method: Sample prepared with reference to Technical Guide on Metals and Alloys used in food contact materials and articles of the 1st edition in 2013 (CM/Res(2013)9) and by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Inductively Coupled Plasma Optical Emission Spectrometer with Mass Detector (ICP-MS) analysis.

Test Condition: 100°C/4.0hours with Citric acid (5 g/L) (0.5%)

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **5 / 9**

Extractable Elements	MDL	1 st Result	2 nd Result	1 st + 2 nd Result	7*Limit	Unit	mg/kg
		3#	3#	3#		3 rd Result	Limit
Silver, Ag	0.01	n.d.	n.d.	n.d.	0.56	n.d.	0.08
Aluminum, Al	0.01	n.d.	n.d.	n.d.	35	n.d.	5
Chromium, Cr	0.01	n.d.	n.d.	n.d.	1.75	n.d.	0.25
Cobalt, Co	0.01	n.d.	n.d.	n.d.	0.14	n.d.	0.02
Copper, Cu	0.01	n.d.	n.d.	n.d.	28	n.d.	4
Iron, Fe	0.01	1.52	1.03	2.55	280	0.84	40
Magnesium, Mg	0.01	n.d.	n.d.	n.d.	---	n.d.	---
Manganese, Mn	0.01	n.d.	n.d.	n.d.	12.6	n.d.	1.8
Molybdenum, Mo	0.01	n.d.	n.d.	n.d.	0.84	n.d.	0.12
Nickel, Ni	0.01	n.d.	n.d.	n.d.	0.98	n.d.	0.14
Tin, Sn	0.01	n.d.	n.d.	n.d.	700	n.d.	100
Titanium, Ti	0.01	n.d.	n.d.	n.d.	---	n.d.	---
Vanadium, V	0.01	n.d.	n.d.	n.d.	0.07	n.d.	0.01
Zinc, Zn	0.01	n.d.	n.d.	n.d.	35	n.d.	5
Arsenic, As	0.001	n.d.	n.d.	n.d.	0.014	n.d.	0.002
Barium, Ba	0.01	n.d.	n.d.	n.d.	8.4	n.d.	1.2
Beryllium, Be	0.01	n.d.	n.d.	n.d.	0.07	n.d.	0.01
Cadmium, Cd	0.001	n.d.	n.d.	n.d.	0.035	n.d.	0.005
Mercury, Hg	0.001	n.d.	n.d.	n.d.	0.021	n.d.	0.003
Lithium, Li	0.01	n.d.	n.d.	n.d.	0.336	n.d.	0.048
Lead, Pb	0.001	n.d.	n.d.	n.d.	0.07	n.d.	0.010
Antimony, Sb	0.01	n.d.	n.d.	n.d.	0.28	n.d.	0.04
Thallium, Tl	0.0001	n.d.	n.d.	n.d.	0.0007	n.d.	0.0001

Note:

1. MDL = Method Detection Limit.
2. n.d. = Not detected, less than MDL.
3. The submitted sample/component is a repeated use article. The migration test was carried out three times on the same article. The sum of the results of the first and second tests should not exceed seven times the limit (Result 1st test + Result 2nd test < 7* limit) and the Result 3rd should not exceed the limit.

9, Leachable Lead, Cadmium and Cobalt for Glass materials

Test Method: with reference to EN 1388-1/2:1995, analysis was performed by ICP-OES or AAS

Test Items	Test Results				Permissible Limit
	4#, 1 st	4#, 2 nd	4#, 3 rd	4#, 4 th	
Leachable Lead, Pb (mg/L)	<0.01	<0.01	<0.01	<0.01	Refer to table 01
Leachable Cadmium, Cd (mg/L)	<0.01	<0.01	<0.01	<0.01	Refer to table 01
Leachable Cobalt, Co (mg/kg)	<0.05	<0.05	<0.05	<0.05	0.05, max
Conclusion	Category 2, PASS				

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **6 / 9**

Table 1, permissible limits for articles made from stonewares, glass stonewares with decorated inner surfaces, and for articles with enameled surfaces.

Category	Product Definition	Lead	Cadmium
Category 1	1. Articles which cannot be filled 2. Articles which can be filled, the internal depth of which, measured from the lowest point to the horizontal plane passing through the upper rim, does not exceed 25 mm (shallow articles) 3. The mouth rim of articles meant for drinking purposes (e.g. mugs and cups)	0.8 mg/dm ²	0.07 mg/dm ²
Category 2	1. Articles which can be filled, except shallow articles (category 1; no. 2)	4.0 mg/L	0.3 mg/L
Category 3	1. Cooking ware 2. Storage vessels having a capacity of more than three litres	1.5 mg/L	0.1 mg/L

Table 2, permissible limits for articles made from stonewares, glass stonewares with decorated inner surfaces, and for articles with enameled surfaces.

Items		Flatware		Hollowware	
		Lead, mg/dm ²	Cadmium, mg/dm ²	Lead, mg/l	Cadmium, mg/l
Tableware Kitchen Equipment	Made from stoneware, glass and glass stoneware	0.8*	0.07*	4.0*	0.3*
	Enameled	0.8	0.07	0.8	0.07
Cooking & baking utensils, receptacles also used as packaging storage container	Made from stoneware, glass and glass stoneware	0.4	0.05	1.5*	0.1*
	Enameled	0.1	0.05	0.4	0.07
Samples for enameled container, part of equipment and water heater		0.1	0.05	---	---

Note: the limits were referred to DIN 51032

* in agreement with EC directive

Table 3, permissible limits of the Lead and Cadmium release from enamelled ware in contact with food.

Items		Maximum Lead release		Maximum Cadmium release	
		mg/dm ²	mg/L	mg/dm ²	mg/L
Foodware without cook ware	Flatware	0.8	---	0.07	---
	Hollow ware, up to 3L	---	0.8	---	0.07
Cookware	Flatware	0.1	---	0.05	---
	Hollow ware, up to 3L	---	0.4	---	0.07
Tanks and vessels (capacity over 3L) tested by flat specimen		0.1	---	0.05	---

Note: the limits were extracted from the standard ISO 4531-2-1998

TEST REPORT

No. **8621.SH.2011.0090** Date: **11.23, 2020** Page: **7 / 9**

10, Bisphenol A content

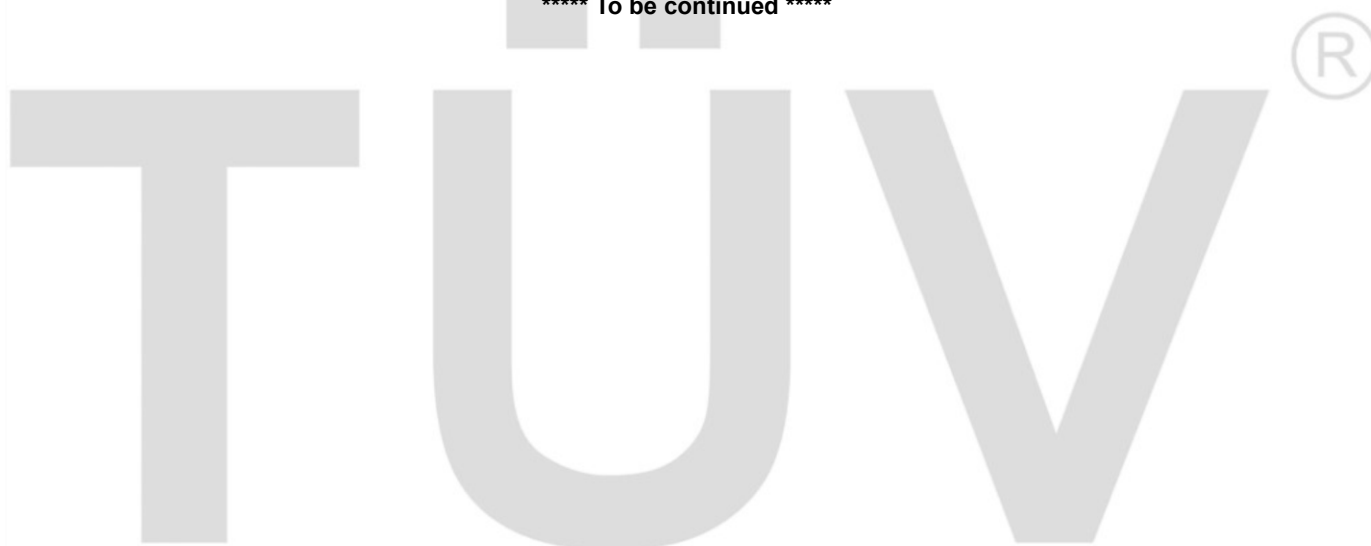
Test Method: with reference to EPA 3550, solvent extracted, followed analyzed by GC/MS and LC/MS/MS

Test Parameter	Units	MDL	Test Results		Permissible Limit
			1#	2#	
Bisphenol A content BPA, CAS No.80-05-7	mg/kg	0.05	n.d.	n.d.	0.05, max

Note:

- % , percentage; mg, milligrams; g, grams; kg, kilograms
- mg/kg = milligrams per kilograms; mg/L = milligrams per litre
- 0.1% = 1000mg/kg = 1000mg/L
- < = less than; > = greater than
- MDL = method detection limit
- n.d. = not detected, < MDL
- n.a. = not applicable
- n.r. = not required
- EX = abbr. of Exempted

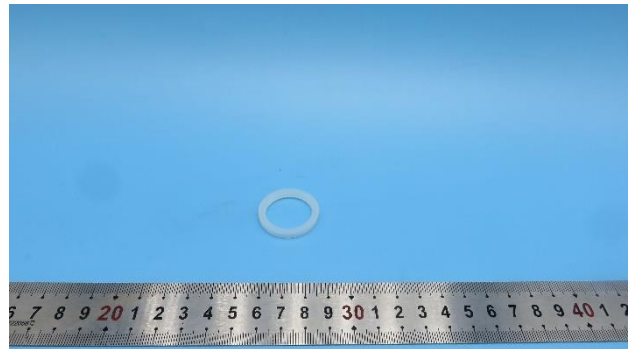
**** To be continued ****



SAMPLE IMAGE



1#



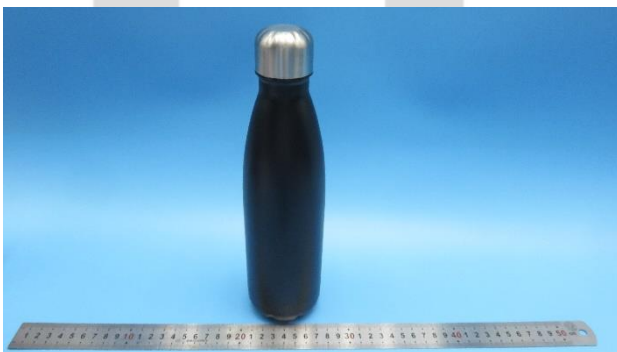
2#



3#



4#



Tested samples



Tested samples





***** END OF REPORT *****