



Test Report

Report No. A221002422210101

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Company Name SHENZHEN SQUARE BOTTLE COMPANY LTD
shown on Report

Address NO.2,4,5 AND 14 BUILDING, 3 AREA, LIANHE INDUSTRIAL, NAN YUE
COMMUNITY, LONG GANG DISTRICT, SHENZHEN CITY, CHINA

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name	Plastic water bottle
Material	Tritan
Sample Received Date	Jan. 20, 2021
Testing Period	Jan. 20, 2021 to Jan. 28, 2021

Test Conducted:

As requested by the applicant. For details refer to next page(s).

Tested by

Ben Zou

Reviewed by

Fiona Wu

Approved by

Hill Zheng

Hill Zheng

Technical Manager

Jan. 28, 2021

No. T166321768

Centre Testing International Group Co., Ltd.

Inspection & Testing Services

CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

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Executive Summary:

TEST REQUEST

CONCLUSION

1) LFGB §31	
- Sensory analysis*/#	PASS
2) LFGB §30&31, (EU) No 10/2011 Commission Regulation on plastic materials and articles intended to come into contact with food and its amendments, and Regulation (EC) No 1935/2004 of the European Parliament on materials and articles intended to come into contact with food	
- Overall migration	PASS
- Specific migration of heavy metal	PASS
- Specific migration of Bisphenol A	PASS
3) LFGB §30&31, Res AP(2004)5 Resolution on silicone used for food contact applications, and Regulation (EC) No 1935/2004 of the European Parliament on materials and articles intended to come into contact with food	
- Overall migration*	PASS
4) LFGB §30&31, BfR recommendation XV Silicones, and Regulation (EC) No 1935/2004 of the European Parliament on materials and articles intended to come into contact with food	
- Volatile Organic Compounds(VOC)*	PASS
- Peroxide residues*	PASS
5) As specified by client, to test Specific Migration of Polycyclic Aromatic Hydrocarbons (18PAHs), No visible migration(Migration of colorants) in the submitted sample(s)	See page 6

PASS (FAIL) means that the results shown on the report (do not) comply with the required limits.

***** For further details, please refer to the following page(s) *****

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1) **LFGB §31**

▼ **Sensory analysis***/#

Test Method: DIN 10955:2004

Test Item(s)	Result			MDL	Limit	Unit
	001	002	003			
Sensory analysis (odor)	0	0	0	--	3	--
Sensory analysis (taste)	0	0	0	--	3	--

Test Item(s)	Result			MDL	Limit	Unit
	004	005	006			
Sensory analysis (odor)	0	0	0	--	3	--
Sensory analysis (taste)	0	0	0	--	3	--

Note: Grade evaluation:
 0= no discernible deviation
 1= barely discernible deviation
 2= weak deviation
 3= clear deviation
 4= strong deviation

2) **LFGB §30&31, (EU) No 10/2011 Commission Regulation on plastic materials and articles intended to come into contact with food and its amendments, and Regulation (EC) No 1935/2004 of the European Parliament on materials and articles intended to come into contact with food**

▼ **Overall migration**

Test Method: BS EN 1186-3:2002 and/or BS EN 1186-9:2002

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result			MDL	Limit	Unit
	001	002	003			
Overall migration	N.D.	N.D.	N.D.	3.0	10	mg/dm ²

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result		MDL	Limit	Unit
	004	005			
Overall migration	N.D.	N.D.	3.0	10	mg/dm ²

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▼ **Specific migration of heavy metal**

Test Method: Refer to BS EN 13130-1:2004,(EU)No 10/2011,US EPA 6010D:2018

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result			MDL	Limit	Unit
	001	002	003			
Barium (Ba)	N.D.	N.D.	N.D.	0.1	1	mg/kg
Cobalt (Co)	N.D.	N.D.	N.D.	0.01	0.05	mg/kg
Copper (Cu)	N.D.	N.D.	N.D.	1	5	mg/kg
Iron (Fe)	N.D.	N.D.	N.D.	1	48	mg/kg
Lithium (Li)	N.D.	N.D.	N.D.	0.1	0.6	mg/kg
Manganese (Mn)	N.D.	N.D.	N.D.	0.1	0.6	mg/kg
Zinc (Zn)	N.D.	N.D.	N.D.	1	5	mg/kg
Aluminium (Al)	N.D.	N.D.	N.D.	0.1	1	mg/kg
Nickel (Ni)	N.D.	N.D.	N.D.	0.01	0.02	mg/kg

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result		MDL	Limit	Unit
	004	005			
Barium (Ba)	N.D.	N.D.	0.1	1	mg/kg
Cobalt (Co)	N.D.	N.D.	0.01	0.05	mg/kg
Copper (Cu)	N.D.	N.D.	1	5	mg/kg
Iron (Fe)	N.D.	N.D.	1	48	mg/kg
Lithium (Li)	N.D.	N.D.	0.1	0.6	mg/kg
Manganese (Mn)	N.D.	N.D.	0.1	0.6	mg/kg
Zinc (Zn)	N.D.	N.D.	1	5	mg/kg
Aluminium (Al)	N.D.	N.D.	0.1	1	mg/kg
Nickel (Ni)	N.D.	N.D.	0.01	0.02	mg/kg

▼ **Specific migration of Bisphenol A**

Test Method: BS EN 13130-1:2004, CEN/TS 13130-13:2005

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result			MDL	Limit	Unit
	007	008	009			
Bisphenol A (BPA)	N.D.	N.D.	N.D.	0.01	0.05	mg/kg

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Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result		MDL	Limit	Unit
	010	011			
Bisphenol A (BPA)	N.D.	N.D.	0.01	0.05	mg/kg

- 3) **LFGB §30&31, Res AP(2004)5 Resolution on silicone used for food contact applications, and Regulation (EC) No 1935/2004 of the European Parliament on materials and articles intended to come into contact with food**

▼ **Overall migration***

Test Method: BS EN 1186-3:2002 and/or BS EN 1186-9:2002

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result	MDL	Limit	Unit
	006			
Overall migration	N.D.	20.0	60	mg/kg

- 4) **LFGB §30&31, BfR recommendation XV Silicones, and Regulation (EC) No 1935/2004 of the European Parliament on materials and articles intended to come into contact with food**

▼ **Volatile Organic Compounds(VOC)***

Test Method: 61st Communication on testing of plastics in Bundesgesundheitsbl.46 (2003) 362.

Test Item(s)	Result	MDL	Limit	Unit
	006			
Volatile Organic Compounds (VOC)	N.D.	0.10	0.5	%

▼ **Peroxide residues***

Test Method: 58th Communication on testing of plastics in Bundesgesundheitsbl. 40 (1997) 412

Test Item(s)	Result	MDL	Limit	Unit
	006			
Peroxide value	Absent	--	Absent	--

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5) **As specified by client, to test Specific Migration of Polycyclic Aromatic Hydrocarbons (18PAHs), No visible migration(Migration of colorants) in the submitted sample(s)**

▼ **Specific Migration of Polycyclic Aromatic Hydrocarbons (18PAHs)*/#**

Test Method: Immersing the sample with reference to BS EN 13130-1:2004 and analyze by GC-MS

Food Simulant(s): 10% ethanol; Test Condition: 70°C, 2h

Test Item(s)	Result	MDL	Unit
	012		
Sum of 18 PAHs	N.D.	0.01	mg/kg

▼ **No visible migration(Migration of colorants)*/#**

Test Method: 24th Communication on the testing of plastics in Bundesgesundheitsbl.15(1972)285

Food Simulant(s): 10% ethanol

Test Item(s)	Result	MDL	Unit
	013		
Migration of colorants	Negative	--	--

Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- 001-004:Filling method was used and the area-volume ratio (S/V) of overall migration is 7.1 dm²/L, the area-volume ratio (S/V) of other migration is 2.49 dm²/ 0.350 L.
- 005:Total immersion method was used and the area-volume ratio (S/V) of overall migration is 2.1 dm²/L, the area-volume ratio (S/V) of other migration is 0.63 dm²/ 0.294 L.
- 006:Total immersion method was used and the area-volume ratio (S/V) is 0.4 dm²/L.
- 007-010:Filling method was used and the area-volume ratio (S/V) is 2.49 dm²/ 0.350 L.
- 011:Total immersion method was used and the area-volume ratio (S/V) is 0.63 dm²/ 0.294 L.
- 012:Total immersion method was used and the area-volume ratio (S/V) is 0.71 dm²/ 0.119 L.
- The migration test was selected with a sample of the maximum area-volume ratio in the foreseeable use case of the material sample.
- The migration test result(s) was(were) based on the migration test of the third time.

Sample/Part Description

- 001 Green transparent plastic (inner of 350mL bottle)
- 002 Rose red transparent plastic (inner of 350mL bottle)
- 003 Gray transparent plastic (inner of 350mL bottle)
- 004 Blue transparent plastic (inner of 350mL bottle)

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- 005 Black plastic (screw lid of 350mL bottle)
- 006 White translucent silicone rubber (sealing gasket of 350mL)
- 007 Green transparent plastic (inner of 350mL bottle)
- 008 Rose red transparent plastic (inner of 350mL bottle)
- 009 Gray transparent plastic (inner of 350mL bottle)
- 010 Blue transparent plastic (inner of 350mL bottle)
- 011 Black plastic (screw lid of 350mL bottle)
- 012 White translucent silicone rubber (sealing gasket of 350mL)
- 013 White translucent silicone rubber (sealing gasket of 350mL)

Note:

- *indicates the item(s) is (are) not in CNAS accreditation scope.
- #indicates the item(s) is (are) not in CMA accreditation scope. The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.
- According to the client's statement for company relations, the test result(s) of this report is/are presented in reference to the result(s) that reported in A2210024222101.

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Photo(s) of the sample(s)

Final Product

001



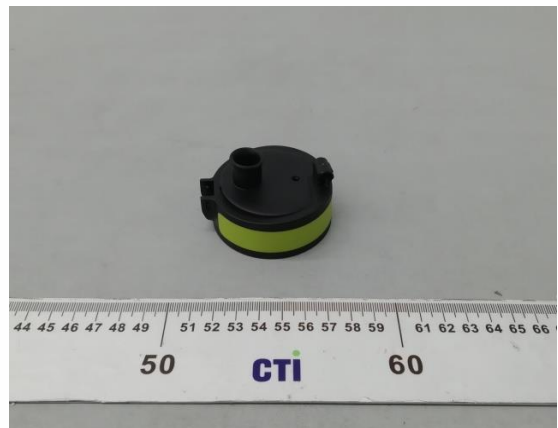
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003



004

005

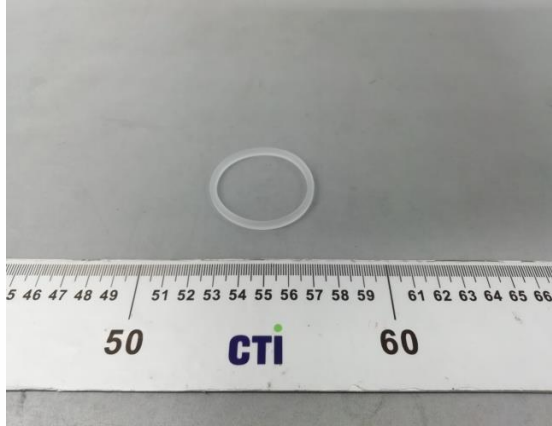


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006



007



008



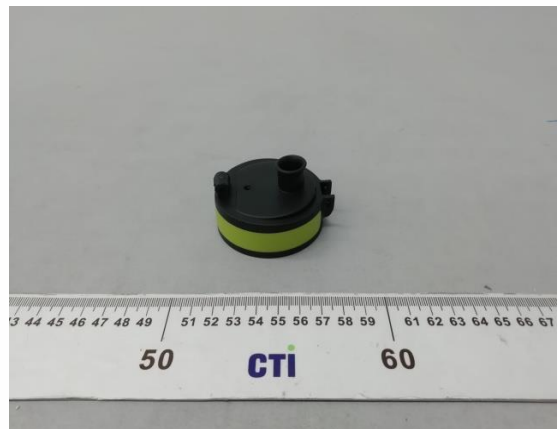
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010



011

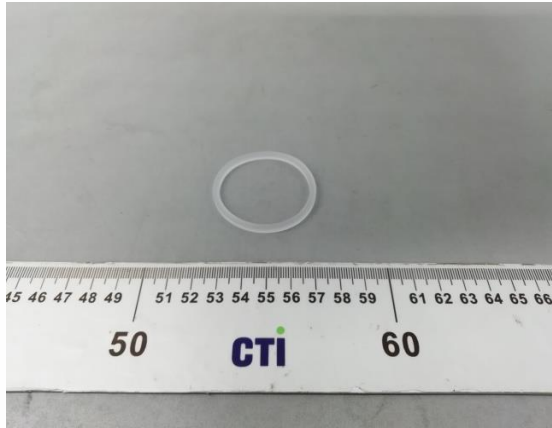


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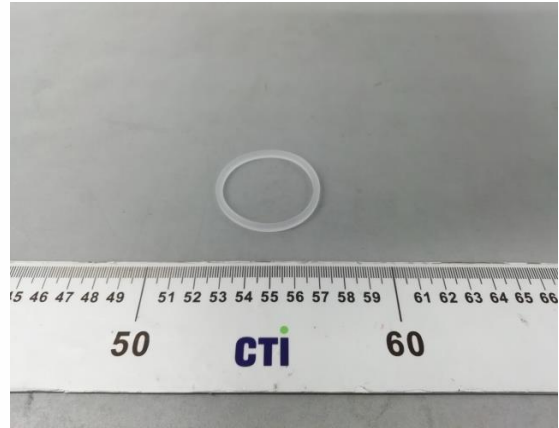
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012



013



Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***

Appendix

Client Reference Photo (Non-tested sample)



Statement:

The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.