

Test Report No.: GZHL1903010699CW Date: Apr 08, 2019 Page 1 of 10

BESTSUB TECHNOLOGIES CO LTD

RM 4411, GRANDVIEW EAST INTERNATIONAL PLAZA, NO 372, HUANSHI DONG ROAD, YUEXIU DISTRICT, GUANGZHOU GUANGDONG 510060 CHINA

Sample Description : 110Z/150Z WHITE JS COATED MUG

Style / Item No. : B101AA,B201D

As above test item and its relevant information regarding to the submission are provided and confirmed by the applicant. SGS is not liable to either the test item or its relevant information, in terms of the accuracy, suitability, reliability or/and integrity accordingly.

Sample Receiving Date : Mar 28, 2019

Test Performing Date : Mar 28, 2019 to Apr 09, 2019

Test Performed : Selected test(s) as requested by applicant

Test Result(s) : For further details, please refer to the following page(s)

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch





Arthur Mak Authorized Signatory



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I . Dishwasher Safety Test

1. Test conducted:

BS EN 12875-4: 2006 Mechanical dishwashing resistance of utensils — Part 4: Rapid test for domestic ceramic articles

2. Scope: This European Standard specifies a rapid method for testing the dishwashing resistance of ceramic articles intended for domestic use. It does not define the number of dishwashing cycles that any given product should withstand.

Test sample description:	Mug
Number of Tested Sample(s):	4 pieces
Number of Controlled Sample(s):	1 piece

3. Test Procedure:

With reference to BS EN 12875-4: 2006 Test method

4. Test Result as follows:

4.1 After 16hours:

	Articles with or without decoration (Category of articles)	Test specimen number	Color	Gloss	Clouding	Resistant deposits and iridescent layers	Other aspects
	Ceramic	1#	0	0	/	0	0
Inapactor 1		2#	0	0	/	0	0
Inspector 1		3#	0	0	/	0	0
		4#	0	0	/	0	0
	Average		0	0	/	0	0
	Ceramic	1#	0	0	/	0	0
La caracte de C		2#	0	0	/	0	0
Inspector 2		3#	0	0	/	0	0
		4#	0	0	/	0	0
	Average			0	/	0	0
	Overall rating			0	/	0	0

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4.2 After 32hours:

	Articles with or without decoration (Category of articles)	Test specimen number	Color	Gloss	Clouding	Resistant deposits and iridescent layers	Other aspects
	Ceramic	1#	0	0	/	0	0
		2#	0	0	/	0	0
Inspector 1		3#	0	0	/	0	0
		4#	0	0	/	0	0
	Average		0	0	/	0	0
	Ceramic	1#	0	0	/	0	0
		2#	0	0	/	0	0
Inspector 2		3#	0	0	/	0	0
		4#	0	0	/	0	0
	Average		0	0	/	0	0
Overall rating			0	0	/	0	0

Note:

Classification	Rating		
0	No visible change		
1	First discernible change		
2	Clearly visible change		



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II. Microwave Oven Test

1. Test conducted:

BS EN 15284: 2007 Materials and articles in contact with food stuffs – Test method for the resistance to microwave heating of ceramic, glass, glass-ceramic or plastics cookware

2. Scope: This European Standard specifies a method for the determination of the resistance to microwave heating of cookware made of ceramic, glass, glass-ceramic or plastics. It is applicable to articles that are intended for multiple re-use in a microwave oven. It is not applicable to articles, particularly those made from plastics, which are intended to be discarded after one use.

Test sample description:	Mug
Number of Tested Sample(s):	3 pieces
Number of Controlled Sample(s):	1 piece

3. Test Procedure:

With reference to BS EN 15284: 2007 test method.

4. Test Requirement:

4.1 Visually inspect the test specimen for damage according to the criteria in Table 1.

Table 1 --- inspection criteria

Material	Cracking	Crazing	Scaling	Color	Melting	Deformatio	Suitability fo	Charring
						n	re-use	
Ceramic	+	+ ^a	+ ^b	+c				
Glass, glass-	+		+b	+c				
ceramic								
Plastics	+			+c	+ ^d	+	+ ^e	+

⁽⁺⁾⁼ to be inspected

NOTE 1 For the color criterion, an inspector and inspection site that meet the requirements of Clause 4 and 5.2 of EN 12875-2:2001 are required [2]

4.2 The maximum surface temperature of handles after the short period heating (6.6) shall not exceed the following limit values:



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a refers to the glaze

^b refers to on-glaze decoration

c if several colors are present on one article to be inspected, the color with the greatest change shall be chosen

d article shall not be too soft to handle

e article shall be washable and stain resistant



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ceramic, glass-ceramic or glass: 56 °C; plastics: 60 °C.

NOTE 1 These temperatures can be found by reference to a one minute contact time in EN ISO 13732-1 [1].

NOTE 2 As temperatures measured after the long period of heating vary significantly depending on the microwave oven used for testing, no temperature limit values apart from those for handles are given.

5. Test Result: Pass

1) Visually inspect the test specimen: No visible change.

2) The highest surface temperature: 33.8°C (after the short period)

67.2°C (after the long period)

III. Test Conducted: <u>BS EN 1183-1997 Materials and articles in contact with foodstuffs-Test methods for thermal shock and thermal shock endurance</u>

Scope:

 This European Standard specifies test methods for thermal shock and for thermal shock endurance for brittle materials, for example glass, glass-ceramics and ceramics intended for use in ovens or as tableware.

Two test methods are described:

- Test method A is used for articles known to be sensitive to thermal shock.
- Test method B is generally applicable

The test method to be applied depends on the intended use of the article and/or its thermal shock resistance.

Test sample description:	Mug
Number of Tested Sample(s):	10 pieces

Test Procedure:

Repeat the testing procedure with the remaining test samples according to method A or method B as appropriate, with increasing temperature difference values, t1-t2, until all samples have failed. Commence testing with a temperature difference value, t1-t2 of not less than 40° C and increase temperature t1, by 10° C for t1-t2 \leq 100°C and by 20° C for t1-t2 \leq 100°C.

Test Result:

t₁°C	t ₂ °C	t ₁ - t ₂ °C	No. of failures	Cumulative failures in %
160	20	140	2	20
180	20	160	8	100
		Total	10	
		ΔΤ ₅₀		=160
		Standard deviation s		=8.43



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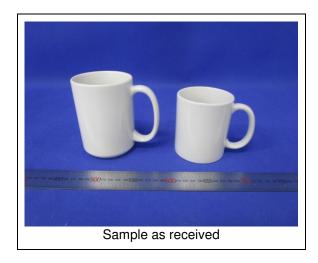
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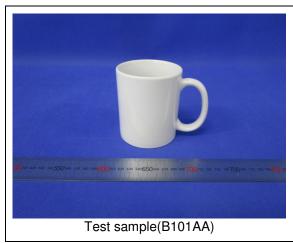
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Sample Photo(s):





VI. SGS Ref No.: CANHG1905406501

Result Summary:

Test Requested	Conclusion
US California Proposition 65 (Superior Court of the State of California - County of	PASS
San Francisco Case No. 938430) – Leachable Lead and Cadmium Content	
(internal surface)	
US FDA CPG Sec. 545.400 (CPG 7117.06) and CPG Sec. 545.450 (CPG	PASS
7117.07) Pottery(Ceramics) - Leachable Lead and Cadmium Content (Internal	
surface)	

Test Results:

Test Part Description:

Specimen No.	SGS Sample ID	Description	Material
			(claimed by the client)
SN1	CAN19-054065.001	Ceramic mug	Ceramic



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<u>US California Proposition 65 (Superior Court of the State of California – County of San Francisco Case No. 938430) – Leachable Lead and Cadmium Content (internal surface)</u>

Test Method: With reference to AOAC 18th Ed. (2005) Section 973.32. Analysis was performed by

ICP-OES.

Sample 001 Internal Surface (Cup and Mug)

	Extract Volume	Depth (mm)
1	<u>(mL)</u> 340	<u>(mm)</u> 88
2	340	88
3	340	88
4	340	88
5	340	88
6	340	88
7	340	88
8	340	88
9	340	88
10	340	88
11	340	88
12	340	88

Leachable Lead	Leachable Cad-
<u>(μg/mL)</u>	mium(μg/mL)
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	< 0.01
< 0.05	<0.01
< 0.05	< 0.01
< 0.05	<0.01
< 0.05	< 0.01
0.100	0.189
	(μg/mL) <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05 <0.05



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Notes:

Flatware: Ceramic articles which have an internal depth, as measured from the lowest point to the horizontal plane passing through the upper rim, that does not exceed 25 mm.

Hollowware: Ceramic articles having an internal depth, as measured from the lowest point to the horizontal plane passing through the upper rim, greater than 25 mm.

Small hollowware: A capacity of less than 1.1 liter.

Large hollowware: A capacity of 1.1 liter or more.

Cups and mugs:Small ceramic hollowware vessels commonly used for consumption of beverages.

Pitchers:Large ceramic hollowware vessels (sometimes known as jugs) commonly used for the storage and dispensing of fruit and vegetable juices or other acidic beverages at or below room temperature which are normally manufactured without a lid but with a handle and lip spout.

The reference limit applied in testing is based on particular California Proposition 65 settlements that are most similar to the tested product in the opinion of the lab. The testing in this report does not reflect a user's actual exposure to the tested chemical.

A manufacturer or retailer that is not named in the referenced settlement is not bound by that settlement, and may choose to comply with California Proposition 65 by clearly informing the consumer of potential exposure.

<u>US FDA CPG Sec. 545.400 (CPG 7117.06) and CPG Sec. 545.450 (CPG 7117.07) Pottery(Ceramics) - Leachable Lead and Cadmium Content (Internal surface)</u>

Test Method: With reference to AOAC 18th Ed. (2005) Section 973.32. Analysis was performed by

ICP-OES.

Sample 001 Cup and mug

	Extract Volume	<u>Depth</u>
	<u>(mL)</u>	<u>(mm)</u>
1	340	88
2	340	88
3	340	88
4	340	88
5	340	88
6	340	88



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	Leachable Lead	Leachable Cad-
	<u>(µg/mL)</u>	mium(μg/mL)
1	< 0.05	< 0.01
2	< 0.05	< 0.01
3	< 0.05	< 0.01
4	< 0.05	< 0.01
5	< 0.05	< 0.01
6	<0.05	<0.01
Limit	0.5	0.5

Notes:

Flatware: Ceramic articles which have an internal depth, as measured from the lowest point to the horizontal plane passing through the upper rim, that does not exceed 25 mm.

Hollowware: Ceramic articles having an internal depth, as measured from the lowest point to the horizontal plane passing through the upper rim, greater than 25 mm.

Small hollowware: A capacity of less than 1.1 liter.

Large hollowware: A capacity of 1.1 liter or more.

Cups and mugs:Small ceramic hollowware vessels commonly used for consumption of beverages.

Pitchers:Large ceramic hollowware vessels (sometimes known as jugs) commonly used for the storage and dispensing of fruit and vegetable juices or other acidic beverages at or below room temperature which are normally manufactured without a lid but with a handle and lip spout.



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Sample photo:



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