

# Test Report

Report No.: AGC03507190602-001

Date: Jun.25, 2019

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Applicant: MID OCEAN BRANDS B.V  
Address: 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong  
Test site: 1,6/F.,Building 2,No.1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Baoan District, Shenzhen, Guangdong, China

## Report on the submitted samples said to be:

Sample Name : Metal vintage mug with enamel layer  
Model No. : MO9756  
Supplier : 107978  
Country of Origin : CHINA  
Country of Destination : EUROPE  
Sample Receiving Date : Jun.19, 2019  
Testing Period : Jun.19, 2019 to Jun.25, 2019

**Test Requested:** : Please refer to next page(s).

**Test Method** : Please refer to next page(s).

**Test Result** : Please refer to next page(s).

Approved by: 

Liulinwen, Lewis

Technical Director



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## Test Requested:

1. As specified by client, to determine the Lead and Lead compounds content in the submitted sample(s) with reference to entry 63, Annex XVII of the REACH Regulation (EC) No 1907/2006.
2. As specified by client, to test sample with reference to food for compliance with Regulation 1935/2004/EC and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9. for metal:
  - Extractable heavy metal
3. As specified by client, to determine the Leachable Lead and Cadmium content in Enamel Ware with reference to Regulation NO.84/500/EEC.

## Conclusion

Pass

Pass

Pass

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**AGC**

Attestation of Global Compliance Std. & Tech.

Tel: +86-755 8358 3833 Fax: +86-755 2531 6612 E-mail: agc01@agc-cert.com 400 089 2118  
Add: Building 2, No.171, Meihua Road, Shangmeilin, Futian District, Shenzhen, Guangdong China

**No.18 C**

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**Test Result(s):**
**1. Test Result(s) of Lead and Lead compounds content**

Unit: mg/kg

| Test item(s) | Test Method/<br>Equipment | MDL | Result(s) |      |      | Limit |
|--------------|---------------------------|-----|-----------|------|------|-------|
|              |                           |     | 1-1       | 1-2  | 1-3  |       |
| Lead (Pb)    | IEC 62321-5:2013          | 5   | 24        | 22   | 49   | 500   |
| Conclusion   | ICP-OES                   | /   | Pass      | Pass | Pass | /     |

Unit: mg/kg

| Test item(s) | Test Method/<br>Equipment | MDL | Result(s) |      | Limit |
|--------------|---------------------------|-----|-----------|------|-------|
|              |                           |     | 1-4       | 1-5  |       |
| Lead (Pb)    | IEC 62321-5:2013          | 5   | 26        | 27   | 500   |
| Conclusion   | ICP-OES                   | /   | Pass      | Pass | /     |

- Note:**
1. MDL=Method Detection Limit
  2. N.D.=Not Detected(less than method detection limit)
  - 3.As specified by client, only test the designated sample

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**For metal**
**2. Test Result(s) of Extractable heavy metal**

Unit: mg/kg

| Test Item(s)      | Test condition/<br>Equipment             | MDL    | Test Result(s)                                   | Limit  |
|-------------------|--|--------|--|--------|
|                   |  |        | 1 <sup>st</sup> + 2 <sup>nd</sup><br>extractives |        |
|                   |  |        | 1-6  |        |
| Barium (Ba)       | 0.5% citric acid,<br>70°C, 2h<br>ICP-OES | 0.1    | N.D.   | 8.4    |
| Copper (Cu)       |  | 0.1    | N.D.   | 28     |
| Iron (Fe)         |  | 0.1    | N.D.   | 280    |
| Tin (Sn)          |  | 0.1    | N.D.   | 700    |
| Chromium (Cr)     |  | 0.01   | N.D.   | 1.75   |
| Manganese (Mn)    |  | 0.1    | N.D.   | 12.6   |
| Zinc (Zn)         |  | 0.1    | N.D.   | 35     |
| Aluminum (Al)     |  | 0.1    | N.D.   | 35     |
| Lithium (Li)      |  | 0.01   | N.D.   | 0.336  |
| Beryllium (Be)    |  | 0.005  | N.D.   | 0.07   |
| Vanadium (V)      |  | 0.005  | N.D.   | 0.07   |
| Nickel (Ni)       |  | 0.01   | N.D.   | 0.98   |
| Cobalt (Co)       |  | 0.01   | N.D.   | 0.14   |
| Arsenic (As)      |  | 0.002  | N.D.   | 0.014  |
| Molybdenum (Mo)   |  | 0.01   | N.D.   | 0.84   |
| Silver (Ag)       |  | 0.01   | N.D.   | 0.56   |
| Cadmium (Cd)      |  | 0.002  | N.D.   | 0.035  |
| Antimony (Sb)     |  | 0.01   | N.D.   | 0.28   |
| Mercury (Hg)      |  | 0.002  | N.D.   | 0.021  |
| Thallium (Tl)     |  | 0.0001 | N.D.   | 0.0007 |
| Lead (Pb)         | 0.01                                     | N.D.   | 0.07   |        |
| <b>Conclusion</b> |  | /      | <b>Pass</b>                                      | /      |

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Unit: mg/kg

| Test Item(s)      | Test condition/<br>Equipment             | MDL    | Test Result(s)              | Limit  |
|-------------------|--|--------|-----------------------------|--------|
|                   |  |        | 3 <sup>rd</sup> extractives |        |
|                   |  |        | 1-6                         |        |
| Barium (Ba)       | 0.5% citric acid,<br>70°C, 2h<br>ICP-OES | 0.1    | N.D.                        | 1.2    |
| Copper (Cu)       |  | 0.1    | N.D.                        | 4      |
| Iron (Fe)         |  | 0.1    | N.D.                        | 40     |
| Tin (Sn)          |  | 0.1    | N.D.                        | 100    |
| Chromium (Cr)     |  | 0.01   | N.D.                        | 0.25   |
| Manganese (Mn)    |  | 0.1    | N.D.                        | 1.8    |
| Zinc (Zn)         |  | 0.1    | N.D.                        | 5      |
| Aluminum (Al)     |  | 0.1    | N.D.                        | 5      |
| Lithium (Li)      |  | 0.01   | N.D.                        | 0.048  |
| Beryllium (Be)    |  | 0.005  | N.D.                        | 0.01   |
| Vanadium (V)      |  | 0.005  | N.D.                        | 0.01   |
| Nickel (Ni)       |  | 0.01   | N.D.                        | 0.14   |
| Cobalt (Co)       |  | 0.01   | N.D.                        | 0.02   |
| Arsenic (As)      |  | 0.002  | N.D.                        | 0.002  |
| Molybdenum (Mo)   |  | 0.01   | N.D.                        | 0.12   |
| Silver (Ag)       |  | 0.01   | N.D.                        | 0.08   |
| Cadmium (Cd)      |  | 0.002  | N.D.                        | 0.005  |
| Antimony (Sb)     |  | 0.01   | N.D.                        | 0.04   |
| Mercury (Hg)      |  | 0.002  | N.D.                        | 0.003  |
| Thallium (Tl)     |  | 0.0001 | N.D.                        | 0.0001 |
| Lead (Pb)         | 0.01                                     | N.D.   | 0.01                        |        |
| <b>Conclusion</b> |  | /      | <b>Pass</b>                 | /      |

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**Note:**

1. N.D.=Not Detected(less than method detection limit)
2. MDL= method detection limit

**Remark:**

Results from all three extractives are to be considered for compliance:

- (1). Result of 3<sup>rd</sup> extractive shall not exceed the SRL;
- (2). Sum of result of 1<sup>st</sup> and 2<sup>nd</sup> extractives shall not exceed 7 times of SRL.

**For Enamel**
**3. Test Result(s) of Leachable Lead and Cadmium content**

Unit: mg/L

| Test Item(s)      | Test Condition/<br>Equipment           | MDL  | Result(s)            |             |             |             |             |             | Limit |
|-------------------|--|------|----------------------|-------------|-------------|-------------|-------------|-------------|-------|
|                   |  |      | 4% (v/v) Acetic acid |             |             |             |             |             |       |
|                   |  |      | 1-7-A                | 1-7-B       | 1-7-C       | 1-7-D       | 1-7-E       | 1-7-F       |       |
| Lead (Pb)         | BS EN 1388-1:1996<br>22°C, 24h/ICP-OES | 0.1  | N.D.                 | N.D.        | N.D.        | N.D.        | N.D.        | N.D.        | 4.0   |
| Cadmium (Cd)      |  | 0.01 | N.D.                 | N.D.        | N.D.        | N.D.        | N.D.        | N.D.        | 0.3   |
| <b>Conclusion</b> |  | /    | <b>Pass</b>          | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | /     |

- Note:**
1. MDL=method detection limit
  2. N.D.=not detected (less than method detection limit)
  3. Results shown above are testing data of six groups.

**Sample Description**

|     |                          |
|-----|--------------------------|
| 1-1 | Red coating              |
| 1-2 | Blue coating             |
| 1-3 | Green coating            |
| 1-4 | Black coating            |
| 1-5 | White coating            |
| 1-6 | Stainless steel cup edge |
| 1-7 | Enamel(inside)           |

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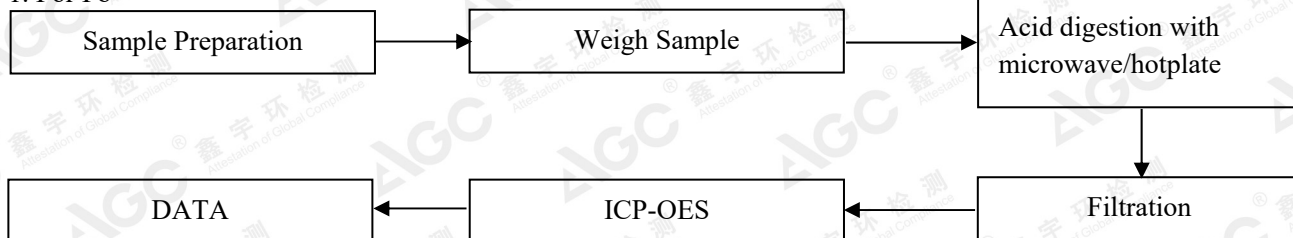
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## Test Flow Chart

1. For Pb



## The photo of the sample



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AGC authenticate the photo on original report only

\*\*\* End of Report\*\*\*

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