



# TEST REPORT

Reference No. : SZ2018060081-2R1E

Date : Jun. 22, 2018

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Client : Mid Ocean Brands B.V.

Address : Unit 201, 2/F., Laford Centre, 838 Lai Chi Kok Road, Cheung Sha Wan, Kowloon, Hong Kong.

The following merchandise was (were) submitted and identified by the client as:

Name of Product : Tritan bottle  
Test Model : MO9356  
Model May Cover : /  
Supplier: 107961  
Country of Origin : CHINA  
Country of Destination : EUROPE  
Sample Received : Jun. 04, 2018  
Test Period : Jun. 04, 2018 - Jun. 22, 2018

As requested by the client, according to Commission Regulation (EU) No 10/2011 and its subsequent amendment Regulation EU No.1282/2011, 1183/2012, 202/2014 and Regulation (EU) 2016/1416 , (EU) 2017/752 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 1<sup>st</sup> edition in 2013, General Requirement(Article 3) in EU Regulation No. 1935/2004 to do the following test items:

Test Items:	Conclusion:
1. Extractable Heavy Metals for metal	PASS
2. Overall Migration test	PASS
3. Phthalate content according to REACH Annex XVII (entry 51&52) and European Commission Regulation 1907/2006 (REACH Act)	PASS
4. Lead (Pb) content according to REACH Annex XVII (entry 63) and European Commission Regulation 1907/2006 (REACH Act)	PASS
5. Cadmium (Cd) content according to REACH Annex XVII (entry 23) and European Commission Regulation 1907/2006 (REACH Act)	PASS
6. Bisphenol-A (BPA) content according to French law No 2012-1442	PASS
7. Soluble Heavy Metals for Plastic	PASS

**THE RESULTS WERE COPIED FROM THE REPORT WHICH NO. WAS SZ2018060081-1R1E.**

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Issued By :



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## TEST RESULTS:

### 1) Extractable Heavy Metals

**Test Method:** Sample prepared with reference to Technical Guide on Metals and Alloys used in food contact materials and articles of the 1<sup>st</sup> edition in 2013 and by Inductively Coupled Plasma Optical Emission Spectrometer(ICP-OES) and Graphite Furnace Atomic Absorption Spectrometry (GFAAS) analysis

**Test condition:** 70°C, 2 hours with Artificial tap water(prepare according DIN 10531 Clause 4.2.2.2)

**Test sample No and description:** 4# Inner silver stainless

Extractable Elements	The 1 <sup>st</sup> Result (mg/kg)	The 2 <sup>nd</sup> Result (mg/kg)	The 1 <sup>st</sup> + 2 <sup>nd</sup> Result (mg/kg)	7*Limit (mg/kg)	The 3rd Result (mg/kg)	Limit (mg/kg)
Silver (Ag)	N.D.	N.D.	N.D.	0.56	N.D.	0.08
Aluminium (Al)	N.D.	N.D.	N.D.	35	N.D.	5
Chromium (Cr)	N.D.	N.D.	N.D.	1.75	N.D.	0.250
Cobalt (Co)	N.D.	N.D.	N.D.	0.14	N.D.	0.02
Copper (Cu)	N.D.	N.D.	N.D.	28	N.D.	4
Iron (Fe)	1.10	0.26	1.36	280	0.04	40
Magnesium (Mg)	0.04	N.D.	0.04	---	N.D.	---
Manganese (Mn)	N.D.	N.D.	N.D.	12.6	N.D.	1.8
Molybdenum (Mo)	N.D.	N.D.	N.D.	0.84	N.D.	0.12
Nickel (Ni)	0.04	N.D.	0.04	0.98	N.D.	0.14
Tin (Sn)	N.D.	N.D.	N.D.	700	N.D.	100
Titanium (Ti)	N.D.	N.D.	N.D.	---	N.D.	---
Vanadium (V)	N.D.	N.D.	N.D.	0.07	N.D.	0.01
Zinc (Zn)	0.02	N.D.	0.02	35	N.D.	5
Antimony (Sb)	N.D.	N.D.	N.D.	0.28	N.D.	0.04
Arsenic (As)	N.D.	N.D.	N.D.	0.014	N.D.	0.002
Barium (Ba)	N.D.	N.D.	N.D.	8.4	N.D.	1.2
Beryllium (Be)	N.D.	N.D.	N.D.	0.07	N.D.	0.01
Cadmium (Cd)	N.D.	N.D.	N.D.	0.035	N.D.	0.005
Lead (Pb)	N.D.	N.D.	N.D.	0.07	N.D.	0.010
Lithium (Li)	N.D.	N.D.	N.D.	0.336	N.D.	0.048
Mercury (Hg)	N.D.	N.D.	N.D.	0.021	N.D.	0.003
Thallium (Tl)	N.D.	N.D.	N.D.	0.0007	N.D.	0.0001

\*\*\*\*\* To be continued \*\*\*\*\*

**Remark:**

1. The following table is the MDL of the Extractable Heavy Metals testing

Extractable Elements	MDL(mg/kg)	Extractable Elements	MDL(mg/kg)	Extractable Elements	MDL(mg/kg)
Silver (Ag)	0.01	Molybdenum (Mo)	0.01	Barium (Ba)	0.01
Aluminium (Al)	0.01	Nickel (Ni)	0.01	Beryllium (Be)	0.01
Chromium (Cr)	0.01	Tin (Sn)	0.01	Cadmium (Cd)	0.001
Cobalt (Co)	0.01	Titanium (Ti)	0.01	Lead (Pb)	0.001
Copper (Cu)	0.01	Vanadium (V)	0.01	Lithium (Li)	0.01
Iron (Fe)	0.01	Zinc (Zn)	0.01	Mercury (Hg)	0.001
Magnesium (Mg)	0.01	Antimony (Sb)	0.01	Thallium (Tl)	0.0001
Manganese (Mn)	0.01	Arsenic (As)	0.001	---	---

2. MDL = Method Detection Limit.

3. N.D.= Not detected, less than MDL.

 4. 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 1<sup>st</sup> test + Result 2<sup>nd</sup> test < 7\* limit) and the Result 3<sup>rd</sup> should not exceed the limit.

**2) Overall Migration Test**
**Test Method:** With reference to EN1186-1:2002 for selection of conditions and test methods;

EN1186-9:2002 aqueous food simulants by article filling method;

EN1186-3:2002 aqueous food simulants by total immersion method;

Simulant Used	Test Condition	Overall Migration (mg/dm <sup>2</sup> )		Maximum Permissible Limit (mg/dm <sup>2</sup> )
		1#	2#	
Surface area(dm <sup>2</sup> )/Volume(ml)	/	1/152	1/167	/
3% Acetic Acid (W/V) Aqueous Solution	2 hours at 70°C	<3.0	<3.0	10
50% Ethanol (V/V) Aqueous Solution	2 hours at 70°C	<3.0	<3.0	10

Simulant Used	Test Condition	Overall Migration (mg/dm <sup>2</sup> )	Maximum Permissible Limit (mg/dm <sup>2</sup> )
		3#	
Surface area(dm <sup>2</sup> )/Volume(ml)	/	1/167	/
3% Acetic Acid (W/V) Aqueous Solution	2 hours at 70°C	<3.0	10
50% Ethanol (V/V) Aqueous Solution	2 hours at 70°C	<3.0	10

**Remark:** Report the third extractive results.

\*\*\*\*\* To be continued \*\*\*\*\*

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### 3. Phthalates Content

**Test Method:** With reference to EN 14372-2004, Analysis was performed by GC-MS.

(3-1) For all toys and childcare articles

Test Item(s)	Unit	MDL	Test Results				Limited Value*
			1#	2#	3#	6#	
Dibutyl Phthalate((DBP)	%	0.005	N.D.	N.D.	N.D.	N.D.	---
Benzylbutyl Phthalate(BBP)		0.005	N.D.	N.D.	N.D.	N.D.	---
Di-(2-ethylhexyl)Phthalate(DEHP)		0.005	N.D.	N.D.	N.D.	N.D.	---
Total (DBP+BBP+DEHP)		---	< 0.015	< 0.015	< 0.015	< 0.015	≤ 0.1

(3-2) For toys and childcare articles that can be mouthed

Test Item(s)	Unit	MDL	Test Results				Limited Value*
			1#	2#	3#	6#	
Di-iso-nonylphthalate(DINP)	%	0.010	N.D.	N.D.	N.D.	N.D.	---
Di-n-octylphthalate(DNOP)		0.005	N.D.	N.D.	N.D.	N.D.	---
Di-iso-decylphthalate(DIDP)		0.010	N.D.	N.D.	N.D.	N.D.	---
Total (DINP+DNOP+DIDP)		---	< 0.025	< 0.025	< 0.025	< 0.025	≤ 0.1

**Remark:** \* The Limited value is based on REACH Annex XVII (entry 51&52).

### 4. Lead(Pb) Content

**Test Method:** With reference to EPA 3052-1996 & EPA 6010C-2007, Analysis was performed by ICP-AES.

Test Item(s)	MDL (mg/kg)	Test Results (mg/kg)						Limited Value** (mg/kg)
		1#	2#	3#	5#	6#	7#	
Lead(Pb)	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	500

\*\*\*\*\* To be continued \*\*\*\*\*

**Test Method:** With reference to EPA3050B -1996 & EPA 6010C-2007, Analysis was performed by ICP-AES.

Test Item(s)	MDL (mg/kg)	Test Results (mg/kg)	Limited Value** (mg/kg)
		4#	
Lead(Pb)	10	N.D.	500

**Remark:** \*\*The Limited value is based on REACH Annex XVII (entry 63).

## 5. Cadmium (Cd) Content

**Test Method:** With reference to EPA 3052-1996 & EPA 6010C-2007, Analysis was performed by ICP-AES.

Test Item(s)	MDL (mg/kg)	Test Results (mg/kg)			Limited Value** (mg/kg)
		1#	2#	3#	
Cadmium (Cd)	10	N.D.	N.D.	N.D.	100

**Test Method:** With reference to EPA 3050B-1996 & EPA 6010C-2007, Analysis was performed by ICP-AES.

Test Item(s)	MDL (mg/kg)	Test Results (mg/kg)	Limited Value** (mg/kg)
		6#	
Cadmium (Cd)	10	N.D.	100

## 6. Bisphenol-A (BPA) Content

**Test Method:** With reference to EPA3550C-2007, Analysis was performed by LC.

Test Item(s)	Unit	MDL	Test Results				Limited Value** (mg/kg)
			1#	2#	3#	6#	
Bisphenol-A (BPA)	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	Absent

## 7. Soluble Heavy Metals

**Test Method:** Sample preparation in 3% Acetic acid at 70°C for 2 hour, followed by analysis using Inductively Coupled Argon Plasma Spectrometer.

Test Item	Result (mg/kg)		Maximum Permissible Limit (mg/kg)
	1# <sup>Δ</sup>	2# <sup>Δ</sup>	
Surface area(dm <sup>2</sup> )/Volume(ml)	1/152	1/167	/
Soluble Barium	<0.01	<0.01	1
Soluble Cobalt	<0.01	<0.01	0.05
Soluble Copper	<0.01	<0.01	5
Soluble Iron	<0.01	<0.01	48
Soluble Lithium	<0.01	<0.01	0.6
Soluble Manganese	<0.01	<0.01	0.6
Soluble Zinc	<0.01	<0.01	5
Soluble Aluminum	<0.01	<0.01	1
Soluble Nickel	<0.01	<0.01	0.02

- Note :**
- 1) MDL = Method Detection Limit.
  - 2) N.D. = Not detected, less than MDL.
  - 3) “---” = Not Regulated.
  - 4) % = Percentage by weight.
  - 5) <sup>Δ</sup>The test was conducted from the rest sample, and the test period was Jun. 15, 2018 to Jun. 22, 2018.

### Test Part Description:

1# Transparent plastic bottle body

2# Grey PP lid

3# White silicone rubber ring

4# Inner silver stainless

5# Black rope

6# Black plastic

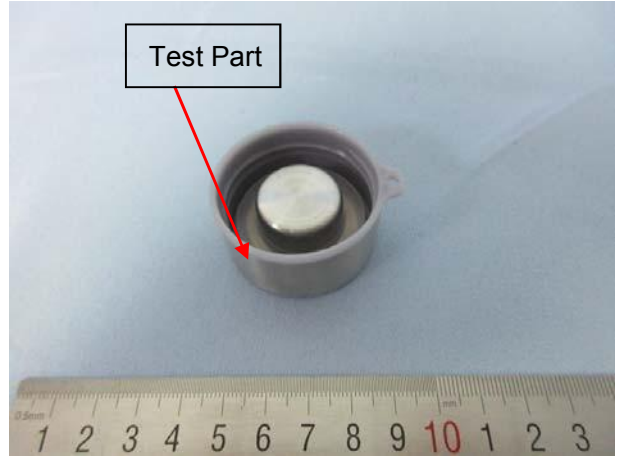
7# Grey ribbon

\*\*\*\*\* To be continued \*\*\*\*\*

## SAMPLE PHOTOS



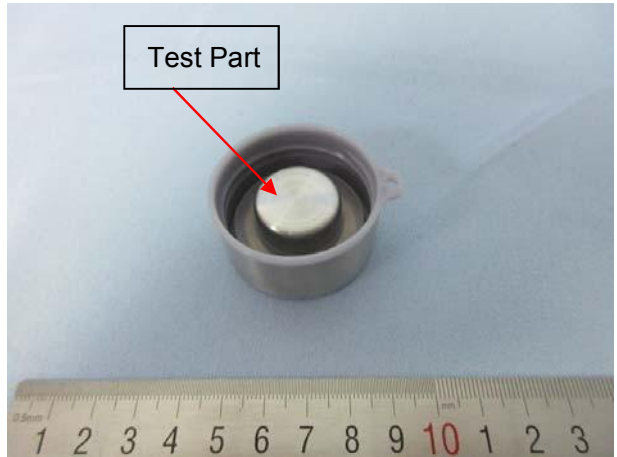
1#



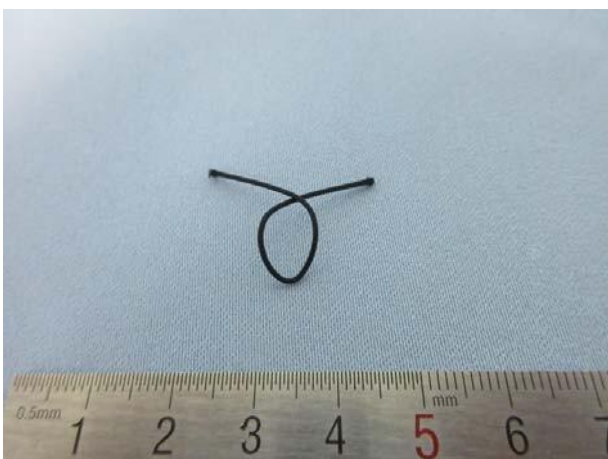
2#



3#



4#



5#



6#





7#

**PRODUCT PHOTO**



**REFERENCE PHOTOS**

The photos were submitted by the client, only for reference



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



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## GENERAL CONDITIONS OF SERVICES

STQ Testing Services Co.,Ltd. (hereinafter "STQ"), while reserving the right to decline, without giving any reason whatsoever, any request for the undertaking of a test or investigation, will carry out at the request of the clients the required test or investigation subject always to the following conditions:

1. STQ only acts for the person or body originating the instructions (the "Clients"). No other party is entitled to give instructions, particularly on the scope of testing or delivery of report or certificate, unless authorized by the Clients.
2. The Sample(s) to be tested or investigated shall be delivered at the costs of the Clients and in accordance with the requirements of STQ. Improper shipping, packaging, and labeling of the Sample(s) by the Client may result in incorrect testing results, STQ shall be under no obligation to the Clients. At the conclusion of the test or investigation, the Clients shall, if required by STQ, collect the Sample(s). In any event, if the Sample(s) are not collected by the Clients within 60 days from the issuance date of the test report (for perishable items such as food and water samples, the relevant period shall be the preserving period up to 15 days), STQ may at its discretion dispose of the Sample(s) without any compensation to the Clients.
3. The Clients shall always comply with the following before or during STQ providing its services:
  - a) provide sample(s) and relevant data, at the same time, guarantee the consistence of the sample(s)' name they declared with the sample(s) or the goods provided. Otherwise, STQ will not bear any relevant responsibilities;
  - b) giving timely instructions and adequate information to enable STQ to perform the services effectively;
  - c) supply, when requested by STQ, any equipment and personnel for the performance of the services;
  - d) take all necessary steps to eliminate or remedy any obstruction in the performance of the services;
  - e) inform STQ in advance of any hazards or dangers, actual or potential, associated with any order of samples or testing;
  - f) provide all necessary access for STQ's representative to enable the required services to be performed effectively;
  - g) ensure all essential steps are taken for safety of working conditions, sites and installations during the performance of services;
  - h) fully discharge all its liabilities under any contract like sales contract with a third party, whether or not a report or certificate has been issued by STQ, failing which STQ shall be under no obligation to the Clients.
4. Subject to STQ's accepting the Client's instructions, STQ will issue reports or certificates which reflect statements of opinion made with due care within the scope of instructions but STQ is not obliged to report upon any facts outside the instructions, if there were any dissidence about the report or certificate, the Client should provide the written declaration to STQ within 15 days after the date receiving the report or certificate, otherwise, STQ will not hear the case after the date limit.
5. STQ is irrevocably authorized by the Clients to deliver at its discretion the report or the certificate to any third party when instructed by the Clients or where it implicitly follows from circumstances, trade custom, usage or practice as determined by STQ.
6. A test report will be issued in confidence to the Clients and it will be strictly treated as such by STQ. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of STQ. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by STQ, to his customer, supplier or other persons directly concerned. STQ will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the report unless required by the relevant governmental authorities, laws or court orders.
7. Applicants wishing to use STQ's reports in court proceedings or arbitration shall inform STQ to that effect prior to submitting the sample for testing.
8. The report will refer only to the sample tested and will not apply to the bulk, unless the sampling has been carried out by STQ and is stated as such in the Report. Also, the report is only for reference.
9. Any documents containing engagements between the Clients and third parties like contracts of sale, letters of credit, bills of lading, etc. are regarded as information for STQ only and do not affect the scope of the services or the obligations accepted by STQ.
  10. If the Clients do not specify the methods/standards to be applied, STQ will choose the appropriate ones and further information regarding the methods can be obtained by direct contact with STQ, for the in-house method, STQ will only provide the summary.
  11. No liability shall be incurred by and no claim shall be made against STQ or its servants, agents, employees or independent contractors in respect of any loss or damage to any such materials, equipment and property occurring whilst at STQ or any work places in which the testing is carried out, or in the course of transit to or from STQ or the said work places, whether or not resulting from any acts, neglect or default on the part of any such servants, agents, employees or independent contractors of STQ.
12. STQ will not be liable, or accept responsibility for any loss or damage howsoever arising from the use of information contained in any of its reports or in any communication whatsoever about its said tests or investigations.
13. Subject to Clause 11 and 12, the total liability of STQ in respect of any claim of loss, damage or expense of whatsoever nature shall not exceed a total sum equal to two times the amount of the service fee payable in respect of the services directly related to such claim, and STQ's liability shall not include any indirect, special or consequential loss of the Clients.
14. In the event of STQ prevented by any cause outside STQ's control from performing any service for which an order has been given or an agreement made, the Clients shall pay to STQ:
  - a) the amount of all abortive expenditure actually made or incurred;
  - b) a proportion of the agreed fee or commission equal to the proportion (if any) of the service actually carried out by STQ, and STQ shall be relieved of all responsibility whatsoever for the partial or total non-performance of the required service.
15. STQ shall be discharged from all liabilities for all claims for loss, damage or expense unless suit is brought within one calendar year after the date of the performance by STQ of the service relating to the claim or in the event of any alleged non-performance within one year of the date when such service should have been completed.

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16. The Clients acknowledge that STQ does not, either by entering into a contract or by performing service, assume or undertake to discharge any duty of the Clients to any other persons. STQ is neither an insurer nor a guarantor and disclaims all liability in such capacity.
17. The Clients shall hold harmless and indemnify STQ and its officers, employees, agents or independent contractors against all claims made by any third party for loss, damage or expense of whatsoever nature including reasonable legal expenses relating to the performance or non- performance of any services to the extent that the aggregate of any such claims relating to any one service exceed the limits mentioned in Clause 13.
18. Any unauthorized alteration, forgery or falsification of the content or appearance of the report/certificate is unlawful and offenders may be prosecuted to the fullest extent of the law; in the event of improper use of the report, STQ reserves the right to withdraw it, and to adopt any other measures which may be appropriate.
19. Samples are deposited with and accepted by STQ on the basis that either they are insured by the Clients or the Clients assumes entire responsibility for loss through fire, theft, burglary or for damages arising in the course of analysis or handling, without recourse whatsoever to STQ or its servants, agent, employees or independent contractors.
20. If the requirements of the Clients require the analysis of samples by the Clients' or any third party's laboratory, STQ will only convey the result of the analysis without responsibility for its accuracy. If STQ is only able to witness an analysis by the Clients' or any third Party's laboratory STQ will only confirm that the correct sample has been analyzed without responsibility for the accuracy of any analysis or results.
21. In the event of any unforeseen additional time or costs being incurred in the course of carrying out any of its services, STQ shall be entitled to charge the Clients additional fees to reflect the additional time and costs incurred.
22. All rights (including but not limited to copyright) in any reports, certificates or other materials produced by STQ in the course of providing its services shall remain vested in STQ.
23. Unless otherwise agreed in writing, payment is to be made within 10 days from the date of Invoice or the date of the Debit Note, all charges rendered by STQ or interest will become due at the rate of three percent per month from the date of invoice until actual payment. The Clients are also responsible for settling all STQ's costs of collecting the charges owed, including legal fees.
24. Test results may be transmitted by electronic means at the Client's request. However, it should be noted that electronic transmission cannot guarantee the information contained will not be lost, delayed or intercepted by third party. STQ is not liable for any disclosure, error or omission in the content of such messages as a result of electronic transmission.
25. If necessary, STQ may subcontract part of or all tests to competent subcontractors. If no objection is raised at the time of the Clients submitting the application, STQ shall assume the Client's approval.
26. This report/certificate does not relieve sellers/suppliers from their contractual responsibility with regards to the quality/quantity of this delivery nor does it prejudice the Client's right to claim towards sellers/suppliers for compensation for any apparent and/or hidden defects not detected during STQ's random inspection or testing or audit.
27. STQ reserves the right to include Special Conditions in addition to the foregoing General Conditions if warranted by the particular circumstances of the required test or investigation [this clause is only effective when the other party has been informed].
28. The foregoing General Conditions shall in all respects be governed, construed, interpreted and operated in accordance with the relevant Chinese laws and regulations. Unless otherwise agreed, the arbitration shall take place in P. R. C
29. These General Condition have been drafted in Chinese and may be translated into other languages. In the event of any discrepancy, the Chinese version shall prevail.
30. In general sample will be stored for 60 days. But for liquid, powder, etc semi-product & fragile product, it will be stored only for 7 days.
31. The effective date of this "GENERAL CONDITIONS OF SERVICES" is 1st May of 2017 and Version 2.0.

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