

Test Report

Testing institute : Product Technology Service (Ningbo) Co., Ltd.
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Applicant : NINGBO XUNSHI IM/EXPORT CO.,LTD.
RM20-6, BUILDING NO.42, YINRUNHAOJING BUSINESS SQUARE,
WANGCHUN STREET, HAISHU DISTRICT, NINGBO CHINA

Product name : Stainless steel sport bottle

Model/type : XS2020-01

Sample receive date : Dec.16,2020
Completes date : Dec.22,2020

Test specification(s)	Conclusion
1. Selected tests for the suitability for contact with foodstuffs in accordance with Italian Official Gazette(G.U.) DMH 21 March 1973 with amendments DM 21/12/2010 No 258.and Italian Official Gazette(G.U.) DM 18 April 2007, n.76 and Regulations (EC) No 1935/2004 with amendments.	
1.1-Overall migration	Pass
1.2-Specific migration of heavy metals	Pass
1.3-Specific migration of chromium, nickel and manganese	Pass
1.4-Material determination, metal (aluminium alloy)	Pass
2. Selected tests for the suitability for contact with foodstuffs in accordance with French Décret n° 2007-766, French DGCCRF Information Notice No.2004-64 and DM/4B/COM/001.	
2.1-Metal content for Stainless Steel – Chromium, Tantalum, Niobium, Zirconium, Molybdenum, Titanium, Aluminum and Copper contents	Pass
2.2-Contents of undesirable elements – lead, cadmium and arsenic	Pass

Signed for and on behalf of
Product Technology Service (Ningbo) Co., Ltd.



Authorizer: Davy Wei

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Product name

No.	Name	Part No.	Part Name
1	Stainless steel sport bottle	1-1	Black PP cover
		1-2	Transparent silicone sealing ring
		1-3	Golden aluminum ring
		1-4	Stainless steel bottle

1.1. Test specification : Overall migration

Test method : EN1186-1:2002: for selection of conditions and test methods
 EN1186-3:2002: aqueous food simulants by total immersion

Requirement : COMMISSION REGULATION (EU) No 10/2011 and its amendments

Product Name: 1-1.Black PP cover					
Simulant used	Test condition	Unit	Maximum permissible Limit	Detection Limit	Result
10% ethanol	2 hours at 70°C	mg/dm ²	10	3.0	ND
3% acetic acid	2 hours at 70°C	mg/dm ²	10	3.0	ND
Conclusion	--				Pass

Note:

- 1) mg/dm²=milligram per square decimeter
- 2) ND=Not Detected(<Detection Limit)
- 3) Report the third migration result for repeated use articles.

Test specification : Overall migration

Test method : EN1186-1:2002: for selection of conditions and test methods
EN1186-3:2002: aqueous food simulants by total immersion

Requirement : Resolution Res AP(2004)5
Italian Official Gazette(G.U.) DMH 21 March 1973 with amendments

Product Name: 1-2.Transparent silicone sealing ring					
Simulant used	Test condition	Unit	Maximum permissible Limit	Detection Limit	Result
10% ethanol	2 hours at 70°C	mg/dm ²	10	3.0	ND
3% acetic acid	2 hours at 70°C	mg/dm ²	10	3.0	ND
Conclusion	--				Pass

Note:

- 1) mg/dm²=milligram per square decimeter
- 2) ND=Not Detected(<Detection Limit)
- 3) Report the third migration result for repeated use articles.

Test specification : Overall migration

Test method : EN1186-1:2002: for selection of conditions and test methods
EN1186-9:2002: aqueous food simulants by article filling

Requirement : Italian Official Gazette(G.U.) DMH 21 March 1973 with it's amendment Ministry Decree No.195 of 6 August 2015

Product name:1-4.Stainless steel bottle					
Simulant used	Test condition	Unit	Maximum permissible Limit	Detection Limit	Result
3%acetic acid	0.5 hour at 100°C	mg/dm ²	8	3.0	ND
Conclusion	--				Pass

Note:

- 1) mg/dm²=milligram per square decimeter
- 2) ND=Not Detected(<Detection Limit)
- 3) Report the third migration result for repeated use articles.

1.2. Test specification : Specific migration of heavy metals

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

Requirement : COMMISSION REGULATION (EU) No 10/2011 and its amendments

Product Name: 1-1.Black PP cover				
Test condition:		Sample preparation in 3% acetic acid at 70°C for 2 hours		
Parameter	Unit	Maximum permissible Limit	Detection Limit	Result
Aluminium	mg/kg	1	0.1	ND
Nickel	mg/kg	0.02	0.02	ND
Barium	mg/kg	1	0.1	ND
Cobalt	mg/kg	0.05	0.050	ND
Copper	mg/kg	5	0.5	ND
Iron	mg/kg	48	1.0	ND
Lithium	mg/kg	0.6	0.10	ND
Manganese	mg/kg	0.6	0.10	ND
Zinc	mg/kg	5	1.0	ND
Conclusion		--		Pass

Note:

- 1) mg/kg=milligram per kilogram
- 2) ND=Not Detected(<Detection Limit)
- 3) Report the third migration result for repeated use articles.

- 1.3.Test specification : Specific migration of chromium, nickel and manganese
- Test method : Sample preparation in 3% acetic acid at 100°C for 0.5 hour, followed by analysis using ICP-OES
- Requirement : Italian Official Gazette(G.U.) DMH 21 March 1973 with it's amendment Ministry Decree No.195 of 6 August 2015

Product name:1-4.Stainless steel bottle				
Parameter	Unit	Limit	Detection Limit	Result
chromium	mg/L	0.1	0.01	ND
nickel	mg/L	0.1	0.01	ND
manganese	mg/L	0.1	0.01	ND
Conclusion		--		Pass

Note:

- 1) mg/L=milligram per liter
- 2) ND=Not Detected(<Detection Limit)
- 3) Report the third migration result for repeated use articles.

1.4. Test specification : Material determination, metal (aluminium alloy)

Test method : The aluminium part of the product is dissolved by acid dissolution. The concentration of elements is determined by means of ICP-OES. The calibration is performed by chemical analysis of comparable aluminium.

Requirement : In accordance with the composition of the determined metal, the metal correspond to the aluminium or aluminium alloy. This aluminium material meet Decree of April 18, 2007, n. 76 Ministry of Health. Regulations concerning the hygiene of materials and articles of aluminum and aluminum alloys intended to come into contact with food.

Product name: 1-3. Golden aluminum ring			
Parameter	Unit	Limits	Result
Aluminium (Al)	% (W/W)	-	rest
Silicon (Si)	% (W/W)	13.5	0.480
Magnesium (Mg)	% (W/W)	11.0	0.726
Manganese (Mn)	% (W/W)	4.0	0.033
Nickel (Ni)	% (W/W)	3.0	0.017
Iron (Fe)	% (W/W)	2.0	0.293
Copper (Cu)	% (W/W)	0.6	0.051
Antimony (Sb)	% (W/W)	0.20	<0.001
Chromium (Cr)	% (W/W)	0.35	0.017
Titanium (Ti)	% (W/W)	0.3	0.0079
Zircon (Zr)	% (W/W)	0.3	0.0038
Zinc (Zn)	% (W/W)	0.25	0.039
Strontium (Sr)	% (W/W)	0.2	0.012
Tin (Sn)	% (W/W)	0.1	<0.001
Arsenic (As)	%(W/W)	0.05	<0.001
Tantalum (Ta)	%(W/W)	0.05	<0.001
Beryllium (Be)	%(W/W)	0.05	<0.001
Thallium (Tl)	%(W/W)	0.05	<0.001
Lead (Pb)	%(W/W)	0.05	<0.001
Silver (Ag)	%(W/W)	0.05	<0.001
Conclusion		--	Pass

2.1. Test specification : Metal content for Stainless Steel – Chromium, Tantalum, Niobium, Zirconium, Molybdenum, Titanium, Aluminum and Copper contents.

Test method : Acid digestion, followed by analysis using Inductively Coupled Argon Plasma Spectrometry.

Requirement : French Décret n° 2007-766 and French DGCCRF Information Notice No.2004-64, DM/4B/COM/001

Product name: 1-4 .Stainless steel bottle			
Test Item	Unit	Limit (%)	Results(%)
Chromium(Cr)	%(W/W)	Not less than 13	18.46
Tantalum(Ta)	%(W/W)	Maximum 1	0.0056
Niobium(Nb)	%(W/W)	Maximum 1	<0.001
Zirconium(Zr)	%(W/W)	Maximum 1	<0.001
Molybdenum(Mo)	%(W/W)	Maximum 4	0.023
Titanium(Ti)	%(W/W)	Maximum 4	0.0078
Aluminum(Al)	%(W/W)	Maximum 4	0.0082
Copper(Cu)	%(W/W)	Maximum 4	0.020
Conclusion		--	Pass

2.2. Test specification : Contents of undesirable elements – lead, cadmium and arsenic.

Test method : Acid digestion, followed by analysis using Inductively Coupled Argon Plasma Spectrometry.

Requirement : French Décret n° 2007-766 and French DGCCRF Information Notice No.2004-64, DM/4B/COM/001

Product name: 1-4.Stainless steel bottle				
Test Item	Unit	Limit	Detection Limit	Result
Lead (Pb)	mg/kg	500	10.0	ND
Cadmium (Cd)	mg/kg	100	10.0	ND
Arsenic(As)	mg/kg	300	10.0	ND
Conclusion		--		Pass

Note:

- 1) mg/kg=milligram per kilogram
- 2) ND=Not Detected(<Detection Limit)

Main test instruments used for this method:

Instrument	Manufactory	Model / Type
ICP-OES	PerkinElmer	Optima 5300 DV

Sample photo(s), see annex 1

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Product Technology Service

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ANNEX 1

Sample photo(s), consists of 1 page



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Stainless steel sport bottle

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