



**BUREAU
VERITAS**

TEST REPORT

Technical Report : (6616)356-1557
DATE : January 10, 2017
PAGE : 1 OF 8

APPLICANT:
YUHUAN FIRST PLASTIC PRODUCT CO., LTD
HEXIN INDUSTRIAL QINGGANG YUHUAN ZHEJIANG CHINA

Date of Submission: December 21, 2016
Date of on hold: December 28, 2016
Date of off hold: January 10, 2017
Test Period: December 21, 2016 to January 10, 2017

Sample Description: Sample(s) received is/are stated to be:
A) stainless steel
Test Item(s): Details see page 3

Color: / Model No./ Style No(s): SUS304
Age Grade: / PO No.: /
Vendor: / Supplier Reference: /
Manufacturer: / Country of Origin: Zhang Pu Korea
End Buyer: / Country of Destination: USA, UK, French, Canada, Italy

Overall Conclusion A : The sample(s) **MEET** the respective requirements for the below tested items as stated in German § 30 and 31 LFGB (Food and Feed Code) for materials in contact with foodstuffs.

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Sensory Test (Odour and Taste) for Materials in Contact with Foodstuffs – EC No. 1935/2004 and § 30 and 31 LFGB	PASS
Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs	PASS

Overall Conclusion B : The sample(s) **MEET** the respective requirements for the below tested items

TEST REQUESTED	REMARK
Heavy Metals Content – European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments	PASS

REMARK

If there are questions or concerns on this report, please contact the following persons:

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BUREAU VERITAS
CONSUMER PRODUCTS SERVICES DIVISION (SHANGHAI)

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RW/2017



**BUREAU
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Technical Report : (6616)356-1557
DATE : January 10, 2017
PAGE : 2 OF 8

Photo of the Submitted Sample





**BUREAU
VERITAS**

Technical Report : (6616)356-1557
DATE : January 10, 2017
PAGE : 3 OF 8

TEST RESULT

Sample Description Assigned by Laboratory:

Test Item	Description	Client Claimed Material
1	Silvery metal	Stainless steel

I. Sensory Test (Odour and Taste) for Materials in Contact with Foodstuffs – EC No. 1935/2004 and § 30 and 31 LFGB

Parameter	Result	Maximum Allowable Limit
	1	
Odour transfer into foodstuff through simulant, Mineral Water	0	2.5 Scale
Odour transfer into foodstuff through simulant, Coconut Fat	0	2.5 Scale
Taste transfer into foodstuff through simulant, Mineral Water	0	2.5 Scale
Taste transfer into foodstuff through simulant, Coconut Fat	0	2.5 Scale
Conclusion	PASS	-

Note: Scale: 0 = no perceptible off-odour (or taste transfer);
1 = off-odour (or taste transfer) just perceptible (but still difficult to define);
2 = slight off-odour (or taste transfer);
3 = distinct off-odour (or taste transfer);
4 = strong off-odour (or taste transfer)

Method: DIN 10955: 2004-06



TEST RESULT

II. Migration of Heavy Metals Contents for Metal in Contact with Foodstuffs

Test Condition: 0.5 % Citric acid: 70 °C, 0.5 hr

Parameter	Unit	Result			Seven Times of Maximum Specific Release Limit(s) (SRLs) ^[a, b]
		1			
		1st Migrate	2nd Migrate	Sum of 1st & 2nd Migrate ^[b]	
Envelope volume	cm ³	250	250	-	-
Volume of stimulant used	mL	250	250	-	-
Aluminum (Al)	mg/kg	<0.1	<0.1	<0.1	35
Antimony (Sb)	mg/kg	<0.004	<0.004	<0.004	1.4
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	7.0
Cobalt (Co)	mg/kg	<0.005	<0.005	<0.005	0.7
Copper (Cu)	mg/kg	<0.5	<0.5	<0.5	28
Iron (Fe)	mg/kg	<5	<5	<5	280
Magnesium (Mg)	mg/kg	<0.5	<0.5	<0.5	-
Manganese (Mn)	mg/kg	<0.1	<0.1	<0.1	12.6
Molybdenum (Mo)	mg/kg	<0.01	<0.01	<0.01	4.2
Nickel (Ni)	mg/kg	<0.02	<0.02	<0.02	4.9
Silver (Ag)	mg/kg	<0.01	<0.01	<0.01	0.56
Tin (Sn)	mg/kg	<5	<5	<5	700
Titanium (Ti)	mg/kg	<0.5	<0.5	<0.5	-
Vanadium (V)	mg/kg	<0.002	<0.002	<0.002	0.35
Zinc (Zn)	mg/kg	<1	<1	<1	35
Arsenic (As)	mg/kg	<0.001	<0.001	<0.001	0.07
Barium (Ba)	mg/kg	<0.1	<0.1	<0.1	8.4
Beryllium (Be)	mg/kg	<0.001	<0.001	<0.001	0.35
Cadmium (Cd)	mg/kg	<0.001	<0.001	<0.001	0.14
Lead (Pb)	mg/kg	<0.002	<0.002	<0.002	0.28
Lithium (Li)	mg/kg	<0.01	<0.01	<0.01	0.336
Mercury (Hg)	mg/kg	<0.0004	<0.0004	<0.0004	0.105
Thallium (Tl)	mg/kg	<0.00005	<0.00005	<0.00005	0.0035
Conclusion	-	-	-	PASS	-



TEST RESULT

Parameter	Unit	Result	Maximum Specific Release Limit(s) (SRLs) ^[a]
		1 3rd Migrate	
Envelope volume	cm ³	250	-
Volume of stimulant used	mL	250	-
Aluminum (Al)	mg/kg	<0.1	5
Antimony (Sb)	mg/kg	<0.004	0.2
Chromium (Cr)	mg/kg	<0.1	1.0
Cobalt (Co)	mg/kg	<0.005	0.1
Copper (Cu)	mg/kg	<0.5	4
Iron (Fe)	mg/kg	<5	40
Magnesium (Mg)	mg/kg	<0.5	-
Manganese (Mn)	mg/kg	<0.1	1.8
Molybdenum (Mo)	mg/kg	<0.01	0.6
Nickel (Ni)	mg/kg	<0.02	0.7
Silver (Ag)	mg/kg	<0.01	0.08
Tin (Sn)	mg/kg	<5	100
Titanium (Ti)	mg/kg	<0.5	-
Vanadium (V)	mg/kg	<0.002	0.05
Zinc (Zn)	mg/kg	<1	5
Arsenic (As)	mg/kg	<0.001	0.01
Barium (Ba)	mg/kg	<0.1	1.2
Beryllium (Be)	mg/kg	<0.001	0.05
Cadmium (Cd)	mg/kg	<0.001	0.02
Lead (Pb)	mg/kg	<0.002	0.04
Lithium (Li)	mg/kg	<0.01	0.048
Mercury (Hg)	mg/kg	<0.0004	0.015
Thallium (Tl)	mg/kg	<0.00005	0.0005
Conclusion	-	PASS	-

Note: “<” = less than
 mg/kg = milligram per kilogram

Method: With reference to Metals and Alloys used in Food Contact Materials and articles - A Practical Guide to Manufacturers and Regulators (2013 1st Edition) published by European Directorate for the Quality of Medicines and HealthCare (EDQM), Chapter 3.

Remark: 1) ^[a] denotes as this (these) maximum specific release limit(s) was (were) referenced from Metals and Alloys used in Food Contact Materials and articles - A Practical Guide to Manufacturers and Regulators (2013 1st Edition) published by European Directorate for the Quality of Medicines and HealthCare (EDQM), Chapter 1, Article 4, Tables 1 and 2.
 2) Appropriate test condition(s) was (were) selected according to Guidelines on Testing Conditions for Articles in Contact with Foodstuffs (With a Focus on Kitchenware) (2009 1st Edition) published by European Commission Joint Research Center (JRC).
 3) ^[b] denotes as the sum of the results of the first and second migrates should not be exceed seven times the SRL
 4) Acceptable deviation on maximum specific release limit(s) (SRLs) of certain elements was recommended by the Consumer Health Protection Committee (CD-P-SC) of the Biological Standardisation, Network of Official Medicines Control Laboratories (OMCL) and Healthcare Department (DBO) dated on November 18, 2013 (With Document Number RZ/PH/2013-06790L SBA/mfs). See details in Comment.

Comment :

Acceptable Deviation on Maximum SRLs of Certain Elements expressed in mg/kg :												
Element(s)	Sb	Cr	Co	Mo	Ni	V	As	Be	Cd	Pb	Hg	Tl
Guided SRLs	0.04	0.250	0.02	0.12	0.14	0.01	0.002	0.01	0.005	0.010	0.003	0.0001
Recommended SRLs	0.2	1.0	0.1	0.6	0.7	0.05	0.01	0.05	0.02	0.04	0.015	0.0005



TEST RESULT

III. Heavy Metals Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments

Test Method : See Appendix.

-	Unit	Maximum Allowable Limit (Req.)	Result
Test Item	-	-	1
Parameter	-	-	-
Lead (Pb)	mg/kg	1000	33.2
Cadmium (Cd)	mg/kg	100	ND
Mercury (Hg)	mg/kg	1000	ND
Chromium VI (Cr VI)	-	Negative	Negative
Conclusion	-	-	PASS

Note / Key :

ND = Not detected

“>” = Greater than

Req. = Requirement

mg/kg = milligram(s) per kilogram

EX = Exempted

Detection Limit (mg/kg) : Each (Pb, Cd, Hg & Cr VI) 2

Remark :

- The list of analytes is summarized in table of Appendix.
- The test flowchart of heavy metals and flame retardants content is listed in table of Appendix.
- Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).
- According to European Parliament and Council Directive 2011/65/EU, Article 5 “Adaptation of the Annexes to scientific and technical progress”, exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.

END



APPENDIX

List of Analytes and their Corresponding Test Methods [European Parliament and Council Directive 2011/65/EU] :		
No.	Name of Analytes	Test Method(s)
1	Lead (Pb)	With reference to IEC 62321-5: 2013.
2	Cadmium (Cd)	
3	Mercury (Hg)	With reference to IEC 62321-4: 2013.
4	Chromium VI (Cr VI)	<u>Metal</u> : With reference to IEC 62321-7-1: 2015. <u>Polymers & Electronics</u> : With reference to EN 62321: 2009, Annex C.
5	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	With reference to IEC 62321-6:2015.
6	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	

APPENDIX

