SUBJECT	**Chemical Test**
TEST LOCATION	**TÜV SÜD China** TÜV SÜD Products Testing (Shanghai) Co., Ltd. B-3/4, No.1999 Du Hui Road, Minhang District Shanghai 201108, P.R. China
CLIENT NAME	**Shanghai Bluetech Co.,ltd**
CLIENT ADDRESS	No.333 Huasong Rd,fengxian district,shanghai,China
TEST PERIOD	18-Jul-2023~06-Sep-2023 15-Jun-2023~25-Jun-2023
RESULT SUMMARY	Please see the next page

Prepared By

(Wei Jun)
Report Drafter

Authorized By

(Anna Chi)
Authorized Signatory

Note: (1) General Terms & Conditions as mentioned overleaf. (2) The results relate only to the items tested.(3) The test report shall not be reproduced except in full without the written approval of the laboratory.(4) Without the agreement of the laboratory , the client is not authorized to use the test results for unapproved propaganda.

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

RESULT SUMMARY

1. The tested items **complied with** German Food & Feed Acts of September 1, 2005 (LFGB), Section 30 and 31; Directive 84/500/EEC (including it's amendment Directive 2005/31/EC) and Article 3 of Regulation (EC) No. 1935/2004
   - Extractable Heavy Metal (Lead and Cadmium) **001~002 PASS**
   - Extractable Cobalt **001~002 PASS**
2. The tested items **complied with** Res AP (2004) 3 on ion exchange and adsorbent resins used in the processing of foodstuffs
   - Total Organic Carbon (TOC) test **003 PASS**
   - Sensory test **003 PASS**
3. The tested items **complied with** BS EN 12915-1:2009 (Products used for the treatment of water intended for human consumption-Granular activated carbon Virgin granular activated carbon).
   - Particle size distribution **004 PASS**
   - Wettability **004 PASS**
   - Bulk density packed **004 PASS**
   - Ball-pan hardness **004 PASS**
   - Impurities and main by-products **004 PASS**
   - Water-extractable substances **004 PASS**
   - Iodine Number **004 PASS**
4. The tested items **complied with** German Food & Feed Acts of September 1, 2005 (LFGB), Section 30 and 31 and European COMMISSION REGULATION (EU) No 2020/1245, (EU) No 10/2011 and its amendments
   - Overall migration test **005,006,008,009,012,014~015 PASS**
   - Specific Migration of Total Primary Aromatic Amine **005,006,008,009,012~015 PASS**
   - Specific Migration of 22 Primary Aromatic Amine **005,006,008,009,012~015 PASS**
   - Specific Migration of Heavy metal **005,006,008,009,012~015 PASS**
   - Specific Migration of Acrylonitrile **005,006,014 PASS**
   - Specific Migration of 1,3 - Butadiene **006 PASS**
   - 1,3 - Butadiene content **006 PASS**
   - Color release **006,008,015 PASS**
   - Peroxide Value **005,006,008,012,014 PASS**
   - Volatile Organic Compounds **005,006,008,012,014 PASS**
   - Specific migration of 2,2,4,4-tetramethylcyclobutane-1,3-diol **009 PASS**
   - Total chromium, vanadium, zirconium,Hafnium **015 PASS**
5. The tested items **complied with** German Food & Feed Acts of September 1, 2005 (LFGB), Section 30 and 31 and BFR Recommendations XV
   - Extractable components test **007 PASS**
   - Peroxide value **007 PASS**
   - Volatile Organic Matters **007-1 PASS**
   - Total Platinum **007 PASS**

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

6. The tested items **complied with** German Food & Feed Acts of September 1, 2005 (LFGB), Section 30 and 31; DIN 51302:2017 and Article 3 of Regulation (EC) No. 1935/2004
   - Extractable Heavy Metal (Lead and Cadmium) **010 PASS**
   - Extractable Cobalt **010 PASS**
7. The tested items **complied with** German Food & Feed Acts of September 1, 2005 (LFGB), Section 30 and 31
   - Extractable Heavy Metal **011 PASS**
8. The tested items **complied with** German Food & Feed Acts of September 1, 2005 (LFGB), Section 30 and 31; Directive 84/500/EEC (including it's amendment Directive 2005/31/EC) and Article 3 of Regulation (EC) No. 1935/2004
   - Extractable Heavy Metal (Lead and Cadmium) **016~017 PASS**
   - Extractable Cobalt **016~017 PASS**

SAMPLE SOURCE/ RECEIPT DATE / TEST DATE

Logistics Express/ 18-Jul-2023/ 18-Jul-2023
Logistics Express/ 18-Aug-2023/ 18-Aug-2023
Logistics Express/ 15-Jun-2023/ 15-Jun-2023

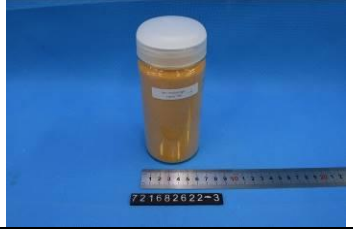
THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED BY/ ON BEHALF OF THE CLIENTS AS

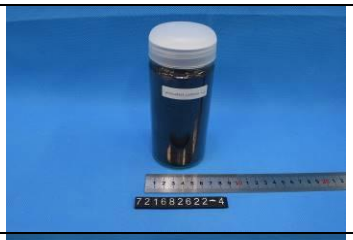
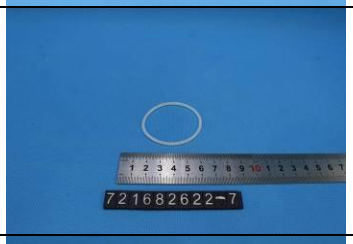
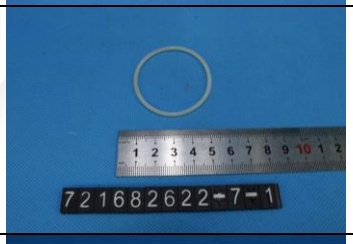
Sample Name: WATER FILTER PITCHER/WATER BOTTLE/WATER FILTER/GLASS JUG/FAUCET FILTER

Sample Specification: HS518,HS519,HS520,HS521,HS522,HS523,HS524,HS525,HS526,HS527,HS528,HS529,HS529,HS530,HS531,HS532,HS533,HS534,HS535,HS551,HS552
B001,B002,B003,B004,B005,B006,BF001,BF002,BF003,BF004,BF005,BF006
F001,F002,F003,F004,F005,F006,F007,F008,F009,F010,F011,F012,F020,F030

Batch No./Date: /

Manufacturer: /

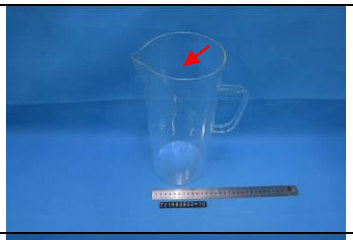
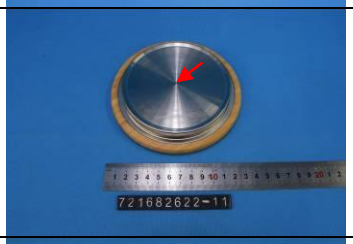
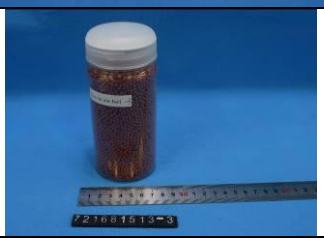
SAMPLE NO.	TEST PART	DESCRIPTION	PHOTOGRAPH
721682622-1	001	Sample in the bottle	
721682622-2	002	Sample in the bottle	
721682622-3	003	Sample in the bottle	

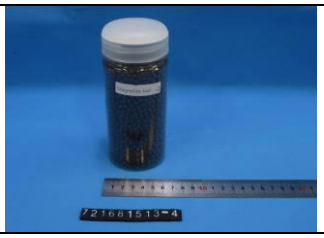
721682622-4	004	Sample in the bottle	
721682622-5	005	Transparent plastic	
721682622-6	006	Black plastic	
721682622-7	007	White silicone	
721682622-7-1	007-1	White silicone	
721682622-8	008	White plastic	
721682622-9	009	Green plastic	

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

721682622-10	010	Transparent glass	
721682622-11	011	Silver metal	
721682622-12	012	Transparent plastic	
721682622-13	013	White Sample	
721682622-14	014	Blue plastic	
721682622-15	015	White plastic	
721681513-3	016	Sample in the bottle	

721681513-4	017	Sample in the bottle	

TEST RESULT(S)

Note: The migration results in this report were tested and expressed based on repeated use articles

1. Extractable Lead and Cadmium

- Test method: With reference to BS EN 1388-1-1996(R2012) and BS EN 1388-2-1996(R2012)
- Sample 001,002 Migration ratio(S/V): 6dm^2/L

Test Item(s)	Result(s) [mg/dm^2]		Maximum Permissible Limit [mg/dm^2]
	001	002	
Extractable Lead	<0.001	<0.001	0.8
Extractable Cadmium	<0.001	<0.001	0.07

Note: 1. The specification was quoted from 84/500/EEC (category 1).

- Sample 010 Migration ratio(S/V): 11.9dm^2/3600ml

Test Item(s)	Result(s) [mg/L]	Maximum Permissible Limit [mg/L]
	010	
Extractable Lead	<0.001	4.0
Extractable Cadmium	<0.001	0.3

Note: 1. The specification was quoted from 84/500/EEC (category 2).

2. Extractable Cobalt

- Test method: With reference to BS EN 1388-1-1996(R2012) and BS EN 1388-2-1996(R2012)
- Sample 001,002 Migration ratio(S/V): 6dm^2/L

Test Item(s)	Result(s) [mg/dm^2]		Maximum Permissible Limit [mg/dm^2]
	001	002	
Extractable Cobalt	<0.01	<0.01	0.1

- Sample 010 Migration ratio(S/V): 11.9dm^2/3600ml

Test Item(s)	Result(s) [mg/L]	Maximum Permissible Limit [mg/L]
	010	
Extractable Cobalt	<0.05	0.05

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

3. Total Organic Carbon test
   - Test method: With reference to the AFNOR test T 90-601 mentioned in ResAP (2004)3 on ion exchange and adsorbent resins used in the processing of foodstuffs

Test Item(s)	Result(s) [mg/L]	Maximum Permissible Limit [mg/L]
	003	
TOC	<0.50	1.0

4. Sensory test
   - With reference to the AFNOR test T 90-601 mentioned in ResAP (2004)3 on ion exchange and adsorbent resins used in the processing of foodstuffs and DIN 10955:2004
   - Collect a mixed sample of fractions 6th to 10th bed-volume, collect 100ml for each bed-volume and mix. After this treatment treated water was examined by panels with regard to any divergence in smell and taste.

Sample(s)	Testing Parameter	Grading result(s)	Recommended level
003	Transfer of taste	1	<3
	Transfer of smell	1	<3

Note: 1. Available grading are listed as follow:

Grading 0: No perceptible taste/smell deviation
1: Just perceptible taste/smell deviation
2: Weak taste/smell deviation
3: Clear taste/smell deviation
4: Strong taste/smell deviation

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

5. Particle size distribution
   - Test method: According to EN12902 - Products used for treatment of water intended for human consumption. Inorganic supporting and filtering materials. Methods of test

Items	Content [%]	Maximum Permissible Limit [%]
	004	
1) Oversize particles	2.83	1) + 2) ≤ 15 2) ≤ 5
2) Undersize particles	0.04	

Note: 1.Oversize denotes more than 16 mm as specified by the client
2.Undersize denotes less than 40 mm as specified by the client

6. Wettability
   - Test method: Immersion of the product in boiling water.Cooling, sedimentation and filteration of the supernatant through a sieve to determine the quantity of material that is not wetted.

Wettability [%]	Minimum Permissible Limit [%]
004	
99.9	99

7. Bulk density packed
   - Test method: The bulk density packed of granular activated carbon is determined by measuring the volume packed by a free fall from a vibrating feeder into 100 ml graduated cylinder and weighing the known volume.

Bulk density [kg/m^3]	Minimum Permissible Limit [kg/m^3]
004	
540	180

8. Ball-pan hardness
   - Test method: A screened and weighed sample of granular activated carbon is placed in a special hardness pan with a number of stainless steel balls, then subjected to a combined rotating and tapping action for 30 min. Degradation of particle size is determined by measuring the mass of granular activated carbon retained by a sieve whose aperture is closest to half the aperture of the sieve that defines the minimum particle size of the original sample.

Hardness [%]	Minimum Permissible Limit [%]
004	
98.6	75

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

9. Impurities and main by-products
- Test method: According to EN12902 - Products used for treatment of water intended for human consumption. Inorganic supporting and filtering materials. Methods of test.

Impurity	Results #1 [%]	Maximum Permissible Limit [%]
	004	
Ash	0.14	15
Water #2(at the time of packing#3)	1.34	5
Water – soluble material	0.18	3
Zinc	<0.001	0.002

Note: #1 Expressed on a dry basis
#2 Higher or lower values can be necessary for certain applications.
#3 The water content can increase after packing;e.g. during transporation

10. Water-extractable substances
- Test method: According to EN12902 - Products used for treatment of water intended for human consumption. Inorganic supporting and filtering materials. Methods of test.

Substances	Results [µg/L]	Maximum Permissible Limit in the extraction water [µg/L]
	004	
Arsenic(As)	<1	10
Cadmium(Cd)	<0.5	0.5
Chromium(Cr)	<1	5
Mercury(Hg)	<0.1	0.3
Nickel(Ni)	<1	15
Lead(Pb)	<1	5
Antimony(Sb)	<1	3
Selenium(Se)	<1	3
Cyanide(CN)	<2	5
PAH#4	<0.02	0.02

Note: #4 Polycyclic Aromatic Hydrocarbons: the sum of the detected concentrations of fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene.

11. Iodine
- According to EN12902 - Products used for treatment of water intended for human consumption. Inorganic supporting and filtering materials. Methods of test.

Iodine Number [mg/g]	Minimum Permissible Limit [mg/g]
004	
1030.2	600

12. Overall Migration Test
- Test method: With reference to EN 1186-3:2022
- Sample 005 Migration ratio(S/V): 13.5dm²/ 4400ml
- Sample 006,008,012,015 Migration ratio(S/V): 10dm²/L
- Sample 009 Migration ratio(S/V): 4.73dm²/850ml
- Sample 014 Migration ratio(S/V): 6.97dm²/2900ml

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		005			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	<3.0	<3.0	<3.0	10
Stability: Comply					

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		006			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	<3.0	<3.0	<3.0	10
Stability: Comply					

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		008			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	<3.0	<3.0	<3.0	10
Stability: Comply					

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		009			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	<3.0	<3.0	<3.0	10
Stability: Comply					

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		012			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	<3.0	<3.0	<3.0	10
Stability: Comply					

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		014			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	3.12	<3.0	<3.0	10
Stability: Comply					

Simulant (s) Used	Test Condition	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
		015			
		1st migration	2nd migration	3rd migration	
10% Ethanol	40°C for 10 days	<3.0	<3.0	<3.0	10
Stability: Comply					

13. Specific migration of Total Primary Aromatic Amine
    - Test method: With reference to EN13130-1:2004, followed by Kunststoffe im Lebensmittelverkehr, Book 2, Teil B II,XXI
    - Test condition: 10% Ethanol, 40°C for 24 hours
    - Sample 005 Migration ratio(S/V): 13.5dm²/ 4400ml
    - Sample 006,008,012,013,015 Migration ratio(S/V): 6dm²/L
    - Sample 009 Migration ratio(S/V): 4.73dm²/850ml
    - Sample 014 Migration ratio(S/V): 6.97dm²/2900ml

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	005			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	006			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	008			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	009			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	012			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	013			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	014			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	015			
	1st migration	2nd migration	3rd migration	
Total Primary Aromatic Amine	<0.01	<0.01	<0.01	0.01
Stability: Comply				

14. Specific migration of 22 Primary Aromatic Amine
- Test method: With reference to EN 13130-1:2004, followed by LC/MS/MS
- Test condition: 10% Ethanol, 40°C for 24 hours
- Sample 005 Migration ratio(S/V): 13.5dm^2/ 4400ml
- Sample 006,008,012,013,015 Migration ratio(S/V): 6dm^2/L
- Sample 009 Migration ratio(S/V): 4.73dm^2/850ml
- Sample 014 Migration ratio(S/V): 6.97dm^2/2900ml

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		005			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		006			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		008			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		009			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)

4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		012			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		013			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)

4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		014			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)
Stability: Comply					

Test Item(s)	CAS No.	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
		015			
		1st migration	2nd migration	3rd migration	
4-aminobiphenyl	92-67-1	ND	ND	ND	ND(DL:0.002)
benzidine	92-87-5	ND	ND	ND	ND(DL:0.002)
4-chloro-o-toluidine	95-69-2	ND	ND	ND	ND(DL:0.002)
2-naphthylamine	91-59-8	ND	ND	ND	ND(DL:0.002)
o-aminoazotoluene	97-56-3	ND	ND	ND	ND(DL:0.002)
5-nitro-o-toluidine	99-55-8	ND	ND	ND	ND(DL:0.002)
4-chloroaniline	106-47-8	ND	ND	ND	ND(DL:0.002)
4-methoxy-m-phenylenediamine	615-05-4	ND	ND	ND	ND(DL:0.002)
4,4'-diaminodiphenylmethane	101-77-9	ND	ND	ND	ND(DL:0.002)
3,3'-dichlorobenzidine	91-94-1	ND	ND	ND	ND(DL:0.002)
3,3'-dimethoxybenzidine	119-90-4	ND	ND	ND	ND(DL:0.002)
3,3'-dimethylbenzidine	119-93-7	ND	ND	ND	ND(DL:0.002)
4,4'-methylenedi-o-toluidine	838-88-0	ND	ND	ND	ND(DL:0.002)
p-cresidine	120-71-8	ND	ND	ND	ND(DL:0.002)
4,4'-methylene-bis- (2-chloro-aniline)	101-14-4	ND	ND	ND	ND(DL:0.002)
4,4'-oxydianiline	101-80-4	ND	ND	ND	ND(DL:0.002)
4,4'-thiodianiline	139-65-1	ND	ND	ND	ND(DL:0.002)
o-toluidine	95-53-4	ND	ND	ND	ND(DL:0.002)
4-methyl-m-phenylenediamine	95-80-7	ND	ND	ND	ND(DL:0.002)
2,4,5-trimethylaniline	137-17-7	ND	ND	ND	ND(DL:0.002)
o-anisidine	90-04-0	ND	ND	ND	ND(DL:0.002)
4-amino azobenzene	60-09-3	ND	ND	ND	ND(DL:0.002)

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Stability: Comply

Note: 1. DL denotes Detection Limit
2. ND denotes Not Detected and less than Detection Limit.

15. Specific migration of Heavy metals
- Test method: With reference to EN13130-1:2004, followed by ICP-MS.
- Test condition: 10% Ethanol, 40°C for 24 hours
- Sample 005 Migration ratio(S/V): 13.5dm^2/ 4400ml
- Sample 006,008,012,013,015 Migration ratio(S/V): 6dm^2/L
- Sample 009 Migration ratio(S/V): 4.73dm^2/850ml
- Sample 014 Migration ratio(S/V): 6.97dm^2/2900ml

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	005			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	006			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	008			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	009			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6

Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	012			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04

Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	013			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

Stability: Comply

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	014			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	015			
	1st migration	2nd migration	3rd migration	
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Aluminium (Al)	<0.1	<0.1	<0.1	1
Chromium (Cr)	ND	ND	ND	ND (DL:0.01)

Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Iron (Fe)	<5	<5	<5	48
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Nickel (Ni)	<0.01	<0.01	<0.01	0.02
Copper (Cu)	<1	<1	<1	5
Zinc (Zn)	<1	<1	<1	5
Arsenic (As)	ND	ND	ND	ND (DL:0.01)
Cadmium (Cd)	ND	ND	ND	ND (DL:0.002)
Antimony (Sb)	<0.01	<0.01	<0.01	0.04
Barium (Ba)	<0.1	<0.1	<0.1	1
Mercury (Hg)	ND	ND	ND	ND (DL:0.01)
Lead (Pb)	ND	ND	ND	ND (DL:0.01)
Lanthanum (La)	<0.01	<0.01	<0.01	0.05
Europium (Eu)	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	<0.01	<0.01	<0.01	0.05
Sum of [La, Eu, Gd, Tb]	<0.04	<0.04	<0.04	0.05
Stability: Comply				

Note: 1. DL denotes Detection Limit
2. ND denotes Not Detected and less than Detection Limit.

16. Specific Migration of Acrylonitrile
- Test method: With reference to BS EN 13130-3:2004
- Test condition: 10% Ethanol, 40°C for 24 hours
- Sample 005 Migration ratio(S/V): 13.5dm^2/ 4400ml
- Sample 006 Migration ratio(S/V): 6dm^2/L
- Sample 014 Migration ratio(S/V): 6.97dm^2/2900ml

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	005			
	1st migration	2nd migration	3rd migration	
Acrylonitrile	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	006			
	1st migration	2nd migration	3rd migration	
Acrylonitrile	<0.01	<0.01	<0.01	0.01
Stability: Comply				

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	014			
	1st migration	2nd migration	3rd migration	
Acrylonitrile	<0.01	<0.01	<0.01	0.01
Stability: Comply				

17. Specific Migration of 1,3 - Butadiene
    - Test method: With reference to DD CEN/TS 13130-15:2004
    - Test condition: 10% Ethanol, 40°C for 24 hours
    - Sample 006 Migration ratio(S/V): 6dm²/L

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	006			
	1st migration	2nd migration	3rd migration	
1,3 - Butadiene	<0.01	<0.01	<0.01	0.01
Stability: Comply				

18. 1,3 - Butadiene content
    - Test method: With reference to BS EN 13130-4:2004

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]
	006	
1,3 - Butadiene	<0.1	1

19. Specific Migration of 2,2,4,4-tetramethylcyclobutane-1,3-diol
    - Test method: With reference to EN 13130-1:2004, followed by GC/MS
    - Test condition: 10% Ethanol, 40°C for 24 hours
    - Sample 009 Migration ratio(S/V): 4.73dm²/ 850ml

Test Item(s)	Result(s) [mg/kg]			Maximum Permissible Limit [mg/kg]
	009			
	1st migration	2nd migration	3rd migration	
T2,2,4,4-tetramethylcyclobutane-1,3-diol	<0.5	<0.5	<0.5	5
Stability: Comply				

20. Color release
    - Test method: With reference to 24th Communication on the testing of plastics, Bundesgesundheitsblatt 15 (1972) 285

Simulant(s) Used	Test Condition	Result(s)			Permissible Limit
		006	008	015	
10% Ethanol	50ºC for 5 hours	No bleeding	No bleeding	No bleeding	No bleeding

Note: 1. No bleeding denotes no difference was found between blank and sample
2. Bleeding denotes staining was found from sample

21. Peroxide Value
    - Test method: With reference to Bundesgesundheitsbl. 40 (1997), 412.

Test Item(s)	Result(s)					Maximum Permissible Limit
	005	006	008	012	014	
Peroxide Value	Absent	Absent	Absent	Absent	Absent	Absent

22. Volatile Organic Compounds
    - Test method: With reference to Bundesgesundheitsblatt 25 (1982) 334.
    - Test condition: 90°C for 24 hours

Test Item(s)	Result(s) [mg/dm²]			Maximum Permissible Limit [mg/dm²]
	005	006	008	
Volatile Organic Components	1.1	3.7	14.6	15

Test Item(s)	Result(s) [mg/dm²]		Maximum Permissible Limit [mg/dm²]
	012	014	
Volatile Organic Components	0.60	5.7	15

23. Total Chromium, Vanadium, Zirconium and Hafnium Content
    - Test method: Microwave digestion, followed by AAS or ICP-OES analysis

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]
	015	
Chromium content	<2.0	10
Vanadium content	<15.0	20
Zirconium content	<15.0	100
Hafnium Content	<15.0	100

Chemical/Microbiology Laboratory:
TÜV SÜD Products Testing (Shanghai) Co., Ltd.
B-3/4, No.1999 Du Hui Road, Minhang District
Shanghai
201108
P.R. China

Phone : +86 (21) 6037 6375
Fax : +86 (21) 6037 6345
Email: food.chem@tuvsud.com
Webpage: www.tuvsud.com

Regional Head Office:
TUV SUD Certification and Testing (China) Co., Ltd.
No.151 Heng Tong Road Shanghai
200 070 P.R.China

24. Extractable components test
    - Test method: With reference to Bundesgesundheitsbl. 46(2003) 362

Simulant(s) Used	Test Condition	Result(s) [%]	Maximum Permissible Limit [%]
		007	
Distilled water	Reflux for 5 hours	<0.05	0.5
3% Acetic acid	Reflux for 5 hours	0.0681	0.5
10% Ethanol	Reflux for 5 hours	<0.05	0.5

25. Peroxide Value
    - For compliance with the Recommendation of the BfR “Kunststoffe im Lebensmittelverkehr”
    - Test method: With reference to Bundesgesundheitsbl. 40 (1997), 412.

Test Item(s)	Result(s)	Maximum Permissible Limit
	007	
Peroxide Value	Absent	Absent

26. Volatile Organic Matter
    - Test method: With reference to BFR Method:Determination of volatile compounds in silicone consumer products

Test Item(s)	Result(s) [%]	Maximum Permissible Limit [%]
	007-1	
Volatile Organic Matter	0.426	0.5

27. Total Platinum
    - Test method: Microwave digestion, then followed by ICP-OES

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]
	007	
Total Platinum	<15	50

28. Extractable Heavy Metal
- Test method: The sample was simulated Artificial tap water at 40°C for 24 hours. The heavy metal content of extracting solution was then analysed using by ICP-MS.

Test Item(s)	Result(s) [mg/kg]		Maximum Permissible Limit* [mg/kg]	
	011			
	3rd migration	1st + 2nd migration	3rd migration	1st + 2nd migration
Silver	<0.01	<0.02	0.08	0.56
Aluminium	<0.01	<0.02	5	35
Cobalt	<0.01	<0.02	0.02	0.14
Chromium	<0.010	<0.020	0.250	1.75
Copper	<0.01	<0.02	4	28
Iron	<1.0	<2.0	40	280
Magnesium	<0.01	<0.02	--	--
Manganese	<0.010	<0.020	1.8	12.6
Molybdenum	<0.01	<0.02	0.12	0.84
Nickel	<0.01	<0.02	0.14	0.98
Tin	<1.0	<2.0	100	700
Titanium	<0.01	<0.02	--	--
Vanadium	<0.001	<0.002	0.01	0.07
Zinc	<0.10	<0.20	5	35
Arsenic	<0.001	<0.002	0.002	0.014
Barium	<0.01	<0.02	1.2	8.4
Beryllium	<0.001	<0.002	0.01	0.07
Cadmium	<0.001	<0.002	0.005	0.035
Mercury	<0.001	<0.002	0.003	0.021
Lithium	<0.010	<0.020	0.048	0.336
Lead	<0.001	<0.002	0.010	0.07
Antimony	<0.01	<0.02	0.04	0.28
Thallium	<0.0001	<0.0002	0.0001	0.0007

Note: 1. * denotes specification was quoted from Technical guide on metal and alloys used in food contact materials

29. Extractable Lead and Cadmium

- Test method: With reference to BS EN 1388-1-1996(R2012) and BS EN 1388-2-1996(R2012)
- Sample 016~017 Migration ratio(S/V): 6dm^2/L

Test Item(s)	Result(s) [mg/dm^2]		Maximum Permissible Limit [mg/dm^2]
	016	017	
Extractable Lead	<0.001	<0.001	0.8
Extractable Cadmium	<0.001	<0.001	0.07

Note: 1. The specification was quoted from 84/500/EEC (category 1).

30. Extractable Cobalt

- Test method: With reference to BS EN 1388-1-1996(R2012) and BS EN 1388-2-1996(R2012)
- Sample 016~017 Migration ratio(S/V): 6dm^2/L

Test Item(s)	Result(s) [mg/dm^2]		Maximum Permissible Limit [mg/dm^2]
	016	017	
Extractable Cobalt	<0.01	<0.01	0.1

Note:
1. 016~017 the result data was copied from TÜV SÜD report No. 721681513
2. This report is for internal use only such as internal scientific research ,education, quality control, product R&D.

-END OF THE TEST REPORT-