Test Report

Applicant:	Taizhou Huangyan Nancheng Kangxin Plastic Factory
Address:	No. 21, Zone 6, Diantou, Yuanqiao, Huangyan District, Taizhou City, Zhejiang Province
Manufacturer:	Taizhou Huangyan Nancheng Kangxin Plastic Factory
Address:	No. 21, Zone 6, Diantou, Yuanqiao, Huangyan District, Taizhou City, Zhejiang Province

Report on the submitted samples said to be:

Product Name:	water bottle
Brand Name:	N/A
Model Number:	2095
Date of Receipt:	Mar. 18, 2025
Date of Test:	Mar. 18, 2025 ~ Mar. 22, 2025
Date of Report:	Mar. 22, 2025
Test Method:	Please refer to next page.
Test Result:	Please refer to next page.

Prepared (Engineer): Slien Wang

Reviewer (Supervisor): Xiaoshan Ni

Version

Version No.	Date	Description
00	Mar. 22, 2025	Original

Test Requested: Conclusion

German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB) Section 30 and 31 With amendments, Regulation 1935/2004/EC on materials and articles intended to come into contact with food;
European Commission Regulation (EU) No.10/2011 and Its amendments (EU) 2020/1245;
European Commission Regulation AP(89)1;European Commission Regulation AP(2004)5;
European Commission Regulation CM/Res(2020)9.

1.Sensory test-taste and odour to the integrate product	Pass
2.Specific Migration of Heavy Metal	Pass
3.Visible Color Migration	Pass
4.Overall Migration Test	Pass
5.Polycyclic Aromatic Hydrocarbons (PAHs)	Pass
6.Volatile Organic Matter（VOM）	Pass
7.Specific Migration of Primary aromatic amines (PAA)	Pass
8.Total Lead (Pb)、Cadmium (Cd)、Zinc (Zn)、Platinum (Pt)	Pass
9.Peroxides Value	Pass
10.Extractive Substance	Pass
11.Organic Tin content	Pass
12.Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs)	Pass
13.Total BPA content	Pass
14.Specific Migration of - Bisphenol A (BPA)	Pass
15.Specific Migration of - Hexene	Pass
16.Specific Migration of - Octene	Pass
17.Specific Migration of - Terephthalic acid	Pass
18.Specific Migration of - Ethylene glycol	Pass
19.Specific Migration of - Acetaldehyde	Pass

Test Part Description:

Specimen No.	Description	Material
01	Pink transparent plastic (lid)	PC
02	Pink + Blue plastic (cup body)	PC
03	Yellow transparent plastic (lid)	PC
04	Yellow + Red plastic (cup body)	PC
05	Black transparent plastic (lid)	PC
06	Black + White plastic (cup body)	PC
07	Blue transparent plastic (lid)	PC
08	Blue + Green plastic (cup body)	PC
09	Black plastic (lid)	PP
10	Translucent plastic (straw)	PE
11	Pink + white woven rope (rope)	polyester
12	Yellow + black woven rope (rope)	polyester
13	Translucent silicone (sealing ring)	silicone
14	Translucent silicone (water outlet plug)	silicone

Test Results:

1.Sensory test-taste and odour to the integrate product

Test Method: With reference to Robinson's test with reference to DIN 10955:2004.
Test conditions: Distilled wate, 100℃, 2h

Test Item	01	02	03	04	05	06	07	Limit
Sensorial examination odour (Point scale)	0	0	0	0	0	0	0	3
Sensorial examination taste (Point scale)	0	0	0	0	0	0	0	3

Test Item	08	09	10	11	12	13	14	Limit
Sensorial examination odour (Point scale)	0	0	0	0	0	1	1	3
Sensorial examination taste (Point scale)	0	0	0	0	0	1	1	3

Scale evaluation:

0: No perceptible odour and taste

1: Odour and taste just perceptible (still difficult to define)

2: Moderate odour and taste

3: Moderate strong odour and taste

4: Strong odour and taste

2.Specific Migration of Heavy Metals

Test Method: With reference to BS EN 13130-1: 2004, determined by ICP-MS&IC.

Test conditions: 3% acetic acid, 70℃, 2h

Test Item	Unit	MDL	Limit	01			02		
				1st	2nd	3rd	1st	2nd	3rd
Aluminum (Al)	mg/kg	0.1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ammonium ($NH4^+$)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	0.02	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	0.002	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	0.005	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium (Ca)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	0.1	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	0.1	4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Iron (Fe)	mg/kg	1	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lithium (Li)	mg/kg	0.02	0.048	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Magnesium (Mg)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	0.1	0.55	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	0.003	0.003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	0.05	0.14	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Potassium (K)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sodium (Na)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Silver (Ag)	mg/kg	0.05	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	1	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Molybdenum (Mo)	mg/kg	0.02	0.12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Vanadium (V)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium (Tl)	mg/kg	0.001	0.001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Beryllium (Be)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tungsten (W)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Selenium (Se)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zirconium (Zr)	mg/kg	0.1	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum (Ln)	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	03			04		
				1st	2nd	3rd	1st	2nd	3rd
Aluminum (Al)	mg/kg	0.1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ammonium ($NH4^+$)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	0.02	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	0.002	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	0.005	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium (Ca)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	0.1	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	0.1	4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Iron (Fe)	mg/kg	1	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lithium (Li)	mg/kg	0.02	0.048	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Magnesium (Mg)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	0.1	0.55	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	0.003	0.003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	0.05	0.14	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Potassium (K)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sodium (Na)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Silver (Ag)	mg/kg	0.05	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	1	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Molybdenum (Mo)	mg/kg	0.02	0.12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Vanadium (V)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium (Tl)	mg/kg	0.001	0.001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Beryllium (Be)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tungsten (W)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Zirconium (Zr)	mg/kg	0.1	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum (Ln)	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	05			06		
				1st	2nd	3rd	1st	2nd	3rd
Aluminum (Al)	mg/kg	0.1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ammonium ($NH4^+$)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	0.02	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	0.002	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	0.005	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium (Ca)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	0.1	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	0.1	4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Iron (Fe)	mg/kg	1	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lithium (Li)	mg/kg	0.02	0.048	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Magnesium (Mg)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	0.1	0.55	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	0.003	0.003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	0.05	0.14	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Potassium (K)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sodium (Na)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Silver (Ag)	mg/kg	0.05	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	1	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Molybdenum (Mo)	mg/kg	0.02	0.12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Vanadium (V)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium (Tl)	mg/kg	0.001	0.001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Beryllium (Be)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tungsten (W)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zirconium (Zr)	mg/kg	0.1	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum (Ln)	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	07			08		
				1st	2nd	3rd	1st	2nd	3rd
Aluminum (Al)	mg/kg	0.1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ammonium ($NH4^+$)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	0.02	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	0.002	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	0.005	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium (Ca)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	0.1	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	0.1	4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Iron (Fe)	mg/kg	1	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lithium (Li)	mg/kg	0.02	0.048	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Magnesium (Mg)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	0.1	0.55	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	0.003	0.003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	0.05	0.14	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Potassium (K)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sodium (Na)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Silver (Ag)	mg/kg	0.05	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	1	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Molybdenum (Mo)	mg/kg	0.02	0.12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Vanadium (V)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium (Tl)	mg/kg	0.001	0.001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Beryllium (Be)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tungsten (W)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zirconium (Zr)	mg/kg	0.1	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum (Ln)	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	09			10		
				1st	2nd	3rd	1st	2nd	3rd
Aluminum (Al)	mg/kg	0.1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ammonium ($NH4^+$)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	0.02	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	0.002	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	0.005	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium (Ca)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	0.1	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	0.1	4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Iron (Fe)	mg/kg	1	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lithium (Li)	mg/kg	0.02	0.048	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Magnesium (Mg)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	0.1	0.55	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	0.003	0.003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	0.05	0.14	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Potassium (K)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sodium (Na)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Silver (Ag)	mg/kg	0.05	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	1	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Molybdenum (Mo)	mg/kg	0.02	0.12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Vanadium (V)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium (Tl)	mg/kg	0.001	0.001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Beryllium (Be)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tungsten (W)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zirconium (Zr)	mg/kg	0.1	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum (Ln)	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	11			12		
				1st	2nd	3rd	1st	2nd	3rd
Aluminum (Al)	mg/kg	0.1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ammonium ($NH4^+$)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Antimony (Sb)	mg/kg	0.02	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	mg/kg	0.002	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	mg/kg	0.005	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium (Ca)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium (Cr)	mg/kg	0.1	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	mg/kg	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	mg/kg	0.1	4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Iron (Fe)	mg/kg	1	40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Lithium (Li)	mg/kg	0.02	0.048	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Magnesium (Mg)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	mg/kg	0.1	0.55	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	mg/kg	0.003	0.003	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	mg/kg	0.05	0.14	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Potassium (K)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sodium (Na)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Silver (Ag)	mg/kg	0.05	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	mg/kg	1	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Molybdenum (Mo)	mg/kg	0.02	0.12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Vanadium (V)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thallium (Tl)	mg/kg	0.001	0.001	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Beryllium (Be)	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tungsten (W)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	mg/kg	0.1	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Zirconium (Zr)	mg/kg	0.1	2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum (Ln)	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:

(1) 1mg/kg=0.0001%;

(2) N.D. = Not Detected (<MDL);

(3) MDL= Method Detection Limit;

(4) Ln:La、Ce、Pr、Nd、Pm、Sm、Eu、Gd、Tb、Dy、Ho、Er、Tm、Yb、Lu.

3.Visible Color Migration

Test Method :With reference to LFGB 30&31, BfR IX Visible Color Migration.

Test Items	Test condition	01	02	03	04	Limit
Visible Color Migration	3% Acetic Acid Aqueous solution (70℃, 2hours)	Absent	Absent	Absent	Absent	Absent
Visible Color Migration	10% Ethanol Aqueous solution (70℃, 2hours)	Absent	Absent	Absent	Absent	Absent

Test Items	Test condition	05	06	07	08	Limit
Visible Color Migration	3% Acetic Acid Aqueous solution (70℃, 2hours)	Absent	Absent	Absent	Absent	Absent
Visible Color Migration	10% Ethanol Aqueous solution (70℃, 2hours)	Absent	Absent	Absent	Absent	Absent

Test Items	Test condition	09	10	11	12	Limit
Visible Color Migration	3% Acetic Acid Aqueous solution (70℃, 2hours)	Absent	Absent	Absent	Absent	Absent
Visible Color Migration	10% Ethanol Aqueous solution (70℃, 2hours)	Absent	Absent	Absent	Absent	Absent

Test Items	Test condition	13	14	Limit
Visible Color Migration	3% Acetic Acid Aqueous solution (70℃, 2hours)	Absent	Absent	Absent
Visible Color Migration	10% Ethanol Aqueous solution (70℃, 2hours)	Absent	Absent	Absent

4.Overall Migration Test

Test Method: With reference to EN 1186-1: 2002 and EN 1186-3: 2022.

Simulant Used	Time	Temperature	Unit	Limit	01			02		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Simulant Used	Time	Temperature	Unit	Limit	03			04		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Simulant Used	Time	Temperature	Unit	Limit	05			06		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Simulant Used	Time	Temperature	Unit	Limit	07			08		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Simulant Used	Time	Temperature	Unit	Limit	09			10		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Simulant Used	Time	Temperature	Unit	Limit	11			12		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm²	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Simulant Used	Time	Temperature	Unit	Limit	13			14		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	2.0h	70℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	2.0h	70℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
95% ethanol	2.0h	60℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Isooctane	0.5h	40℃	mg/dm^2	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) mg/dm^2 = milligram per square decimeter;
(2) < =less than;
(3) N.D. = Not Detected (<Limit).

5.Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: With reference to AfPS GS 2019:01 PAK, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

Item	Unit	MDL	01			02			Limit
			1st	2nd	3rd	1st	2nd	3rd	
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	Unit	MDL	03			04			Limit
			1st	2nd	3rd	1st	2nd	3rd	

Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	**Unit**	**MDL**	**05**			**06**			**Limit**
			1st	2nd	3rd	1st	2nd	3rd	
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent

Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	Unit	MDL	07			08			Limit
			1st	2nd	3rd	1st	2nd	3rd	
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	Unit	MDL	09			10			Limit
			1st	2nd	3rd	1st	2nd	3rd	
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent

Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	Unit	MDL	11			12			Limit
			1st	2nd	3rd	1st	2nd	3rd	
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	Unit	MDL	13			14			Limit
			1st	2nd	3rd	1st	2nd	3rd	
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent

Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Note:
(1) 1mg/kg=0.0001%;
(2) < =less than;
(3) N.D. = Not Detected (<MDL);
(4) MDL= Method Detection Limit.

6.VOM-BfR Besummung von fluchtigen Verbindungen in Bedarfsgegenstanden aus silicone Version2 Stand: 09/2023

Test Method: With reference to 19. Mitteilung über die Untersuchung von Kunststoffen. Bundesgesundheitsblatt 14(1971)265

Test condition	MDL (%)	Limit (%)	13	14
200℃，4h	0.1	0.5	0.3	0.4

Note:
(1) 1mg/kg=0.0001%;
(2) < =less than;
(3) N.D. = Not Detected (<MDL);
(4) MDL= Method Detection Limit.

7.Specific Migration of Primary aromatic amines

Test Method: With reference to EN 13130-1:2004 , analyzed by GC-MS.
Test conditions: 3% Acetic acid, 70℃, 2h

Test Item	MDL (mg/kg)	Limit (mg/kg)	01	02	03	04	05	06
4-Aminobiphenyl	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Chloro-o-Toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

2-Naphthylamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-amino-2',3-dimethylazobenzene	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
5-Nitro-o-toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Chloroaniline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Methoxy-m-phenylenediamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Diaminodiphenylmethane	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3,3'-Dichlorobenzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3,3'-Dimethoxybenzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3,3'-Dimethybenzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Methylenedi-o-toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
6-methoxy-m-toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-methylenebis[2-chloroaniline]	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Oxydianiline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Thiodianiline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2-Aminotoluene	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-methyl-m-phenylenediamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2,4,5-Trimethylaniline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2-Methoxyaniline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Aminoazobenzene	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
1,3 phenylenediamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total of other primary aromatic amines	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	MDL (mg/kg)	Limit (mg/kg)	07	08	09	10	11	12
4-Aminobiphenyl	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Chloro-o-Toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2-Naphthylamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-amino-2',3-dimethylazobenzene	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
5-Nitro-o-toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Chloroaniline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Methoxy-m-phenylenediamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Diaminodiphenylmethane	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3,3'-Dichlorobenzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3,3'-Dimethoxybenzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

3,3'-Dimethybenzidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Methylenedi-o-toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
6-methoxy-m-toluidine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-methylenebis[2-chloroaniline]	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Oxydianiline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4,4'-Thiodianiline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2-Aminotoluene	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-methyl-m-phenylenediamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2,4,5-Trimethylaniline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2-Methoxyaniline	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
4-Aminoazobenzene	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
1,3 phenylenediamine	0.002	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total of other primary aromatic amines	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1)1mg/kg=0.0001%;
(2)N.D. = Not Detected (<MDL);
(3)MDL= Method Detection Limit.

8.Total Lead (Pb)、Cadmium (Cd)、Zinc (Zn)、Platinum (Pt)

Test Method:With reference to EPA METHOD 3052:1996, analyzed by ICP-OES.

Test Item	Unit	MDL	Limit	13	14
Lead (Pb)	mg/kg	5	100	N.D.	N.D.
Cadmium (Cd)	mg/kg	5	100	N.D.	N.D.
Zinc (Zn)	mg/kg	5	100	N.D.	N.D.
Platinum (Pt)	mg/kg	5	50	N.D.	N.D.

Note:
(1)1mg/kg=0.0001%;
(2)N.D. = Not Detected (<MDL);
(3)MDL= Method Detection Limit.

9.Peroxides Value

Test Method:With reference to European Pharmacopeia, Ph.Eur.Method 2.5.5

Test Item	Limit	13			14			Conclusion
		1st	2nd	3rd	1st	2nd	3rd	
Peroxides value	Absent	Absent	Absent	Absent	Absent	Absent	Absent	PASS

10.Extractive Substance

Test Method:The test was performed according to the 61st Communication on testing of plastics Bundesgesundheitsbl.46(2003)362

Simulant Used	Test duration /Temperature	Unit	Limit	13			14		
				1st	2nd	3rd	1st	2nd	3rd
Distilled water	Reflux for 5 hours	%	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3% Acetic acid	Reflux for 5 hours	%	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
10% Ethanol	Reflux for 5 hours	%	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Note:

(1) 1mg/kg=0.0001%;

(2) < =less than.

11.Organic Tin content

Test method :With reference to ISO 17353 :2004, analysis was performed by GC-MS.

Test Item	Unit	MDL	Limit	13	14
Dibutyltin (DBT)	mg/kg	0.01	1	N.D.	N.D.
Tributyltin (TBT)	mg/kg	0.01	1	N.D.	N.D.
Triphenyltin (TPT)	mg/kg	0.01	1	N.D.	N.D.
Dioctyltin（DOT）	mg/kg	0.01	1	N.D.	N.D.
Monobutyltin (MBT)	mg/kg	0.01	1	N.D.	N.D.
Monooctyltin (MOT)	mg/kg	0.01	1	N.D.	N.D.
Tetrabutyltin (TTBT)	mg/kg	0.01	1	N.D.	N.D.

Note:

(1) 1mg/kg=0.0001%;

(2) N.D. = Not Detected (<MDL);

(3) MDL= Method Detection Limit.

12.Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: With reference to BS EN 13130-1: 2004, determined by GC-MS.

Test conditions: 3% acetic acid, 70℃, 2h

Item	Unit	MDL	01	02	03	04	05	06	07	Limit
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent

Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Item	Unit	MDL	08	09	10	11	12	13	14	Limit
Naphthalene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Phentherene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Fluoranthen	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Chrysene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[b]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[k]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[a]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Indeno[1,2,3-cd]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Dibenzo[a,h]anthracene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[g,h,i]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[j]fluoranthene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Benzo[e]pyrene	mg/kg	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Absent
Total of 15 PAHs	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	/

Note:

(1) 1mg/kg=0.0001%;

(2) N.D. = Not Detected (<MDL);

(3) MDL= Method Detection Limit.

13.Total BPA content

Test Method: With reference to EN 14350-2, determined by LC-MS.

Test Item	Unit	MDL	Limit	01	02	03	04	05	06	07
Bisphenol A	mg/kg	0.1	Absent	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	08	09	10	11	12	13	14
Bisphenol A	mg/kg	0.1	Absent	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) 1mg/kg=0.0001%;
(2) N.D. = Not Detected (<MDL);
(3) MDL= Method Detection Limit.

14.Specific Migration of - Bisphenol A (BPA)

Test Method: With reference to BS EN 13130-1: 2004,determined by LC-MS.
Test conditions: 3% acetic acid, 70℃, 2h

Test Item	Unit	MDL	Limit	01			02		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	03			04		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	05			06		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Test Item	Unit	MDL	Limit	07			08		
				1st	2nd	3rd	1st	2nd	3rd
Bisphenol A	mg/kg	0.01	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) 1mg/kg=0.0001%;
(2) N.D. = Not Detected (<MDL);
(3) MDL= Method Detection Limit.

15.Specific Migration of - Hexene

Test Method: With reference to BS EN 13130-1: 2004,determined by GC-MS.

Simulant Used	Time	Temperature	Unit	Limit	09			10		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	24h	40℃	mg/kg	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	24h	40℃	mg/kg	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Olive oil	24h	40℃	mg/kg	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) 1mg/kg=0.0001%;
(2) N.D. = Not Detected (<MDL);
(3) MDL= Method Detection Limit.

16.Specific Migration of - Octene

Test Method: With reference to BS EN 13130-1: 2004,determined by GC-MS.

Simulant Used	Time	Temperature	Unit	Limit	09			10		
					1st	2nd	3rd	1st	2nd	3rd
3% Acetic acid	24h	40℃	mg/kg	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10% Ethanol	24h	40℃	mg/kg	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Olive oil	24h	40℃	mg/kg	3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) 1mg/kg=0.0001%;
(2) N.D. = Not Detected (<MDL);
(3) MDL= Method Detection Limit.

17.Specific Migration of - Terephthalic acid

Test Method: With reference to BS EN 13130-1: 2004,determined by GC-MS.
Test conditions: 3% acetic acid, 70℃, 2h

Test Item	Unit	MDL	Limit	11			12		
				1st	2nd	3rd	1st	2nd	3rd
Terephthalic acid	mg/kg	0.01	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) 1mg/kg=0.0001%;
(2) N.D. = Not Detected (<MDL);
(3) MDL= Method Detection Limit.

18.Specific Migration of - Ethylene glycol

Test Method: With reference to BS EN 13130-1: 2004,determined by GC-MS.
Test conditions: 3% acetic acid, 70℃, 2h

Test Item	Unit	MDL	Limit	11			12		
				1st	2nd	3rd	1st	2nd	3rd
Ethylene glycol	mg/kg	0.01	1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:
(1) 1mg/kg=0.0001%;
(2) N.D. = Not Detected (<MDL);

(3) MDL= Method Detection Limit.

19.Specific Migration of - Acetaldehyde

Test Method: With reference to BS EN 13130-1: 2004,determined by GC-MS.

Test conditions: 3% acetic acid, 70℃, 2h

Test Item	Unit	MDL	Limit	11			12		
				1st	2nd	3rd	1st	2nd	3rd
Acetaldehyde	mg/kg	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Note:

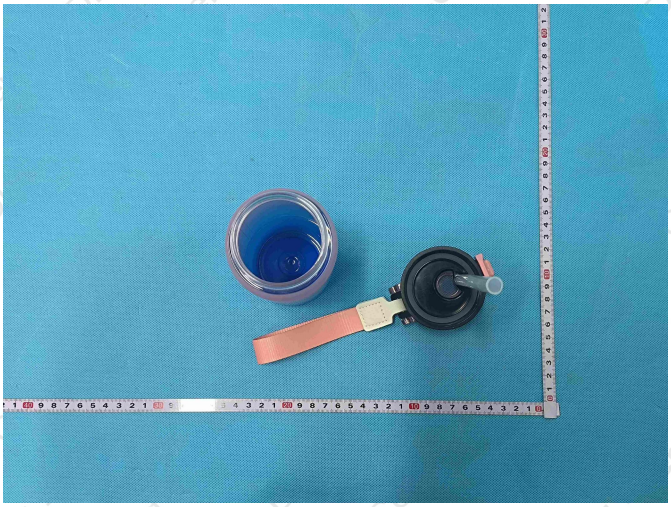
(1) 1mg/kg=0.0001%;

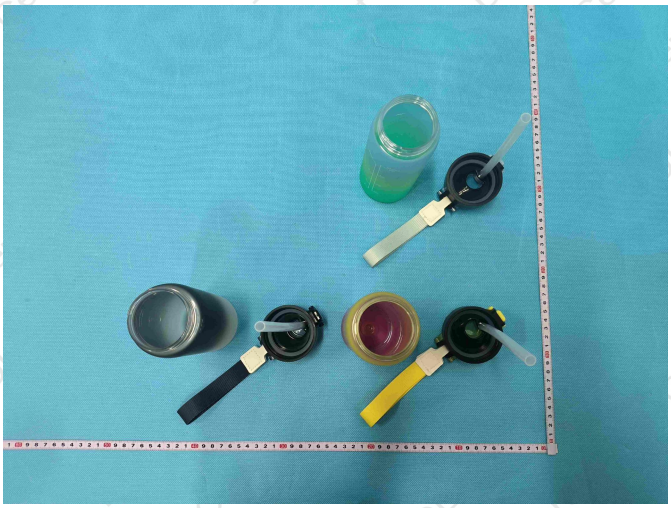
(2) N.D. = Not Detected (<MDL);

(3) MDL= Method Detection Limit.

Photograph of Sample





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