



Greater China

Test Report

No.: 70.431.21.11362.01

Dated: 2021-04-01

Applicant: POLYCONCEPT GBS
Address: 4/F., HONGQIAO RONGGUANG BLDG., 11 CHANGSHUN ROAD SHANGHAI, 200051, PR CHINA
Product Name: Hydroflex 750ml sport bottle
Model No.: CB100101 – Clear / CB100152 – Blue
CB100190 – Black / CB100191 - White
Country of Origin: UK
Country of Destination: EU
Receipt Date of Sample: 2021-03-17
Date of Testing: 2021-03-17 to 2021-04-01
Sample Submitted: The sample(s) was (were) submitted by applicant and identified.
Test Result: Refer to the data listed in following pages

Test Item	Conclusion
1. EU-Regulation (EU) No. 10/2011-Overall Migration Test	Pass
2. EU-Regulation (EU) No. 10/2011-Specific Migration of Heavy Metals	Pass
3. EU-Regulation No. 2018/213-Specific Migration of Bisphenol A	Pass
4. EU-Regulation (EU) No. 10/2011-Specific Migration of Phthalates	Pass
5. EU-Regulation (EU) No. 10/2011-Specific Migration of Primary Aromatic Amine	Pass
6. Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs)	Pass*
7. Germany-German Food & Feed Acts LFGB Section 31 and BfR Recommendation-Sensory Test	Pass
8. Total Cadmium Content Requirement in Annex XVII, Item 23 of the REACH Regulation (EC) No 1907/2006 with its Amendments	Pass
9. Total Lead Content Requirement in Annex XVII, Item 63 of the REACH Regulation (EC) No 1907/2006 with its Amendments	Pass
10. Chromium (VI) Content	Pass*
11. EU-Regulation (EU) No. 10/2011-Phthalates Content	Pass
12. Total Bisphenol A (BPA) Content	Pass*

Remarks: 1. MDL = Method Detection Limit
2. ND = Not Detected (<MDL)
3. <= Less than
4. 1 mg/kg = 1 ppm = 0.0001%
5. mg/dm² denotes milligram per square decimeter
6. *= Conclusion was drawn according to client's specification
7. The migration results in this report were tested and expressed based on repeated use articles.

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TÜV SÜD Certification and Testing (China) Co.,Ltd. Shanghai Branch
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Note:

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- (2) The results relate only to the Items tested.
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- (4) Disclaimer Measurement Uncertainty:
Unless otherwise agreed upon, Pass or Fail verdicts are given based on the measured values without any considerations of measurement uncertainties.
Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail.

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Description of the Tested Subject

Sample	Description	Photo
A	Hydroflex 750ml sport bottle	

Specimen Description	
001	Clear plastic (body)
002	White plastic (body)
003	Blue plastic (body)
004	Black plastic (body)

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Test Results

1. EU-Regulation (EU) No. 10/2011-Overall Migration

- With reference to EN1186-1:2002 for selection of test methods;
EN1186-9:2002 aqueous food simulants by article filling method;
- Samples 001~004 Migration ratio: 750ml/4.84dm²

Simulant(s) Used	Test Condition	Overall Migration Result(s) [mg/dm ²]	Maximum Permissible Limit [mg/dm ²]	Conclusion
		001		
3% Acetic acid	40°C for 24 hours	<3.0	10	Pass
50% Ethanol	40°C for 24 hours	<3.0	10	Pass

Simulant(s) Used	Test Condition	Overall Migration Result(s) [mg/dm ²]	Maximum Permissible Limit [mg/dm ²]	Conclusion
		002		
3% Acetic acid	40°C for 24 hours	<3.0	10	Pass
50% Ethanol	40°C for 24 hours	<3.0	10	Pass

Simulant(s) Used	Test Condition	Overall Migration Result(s) [mg/dm ²]	Maximum Permissible Limit [mg/dm ²]	Conclusion
		003		
3% Acetic acid	40°C for 24 hours	<3.0	10	Pass
50% Ethanol	40°C for 24 hours	<3.0	10	Pass

Simulant(s) Used	Test Condition	Overall Migration Result(s) [mg/dm ²]	Maximum Permissible Limit [mg/dm ²]	Conclusion
		004		
3% Acetic acid	40°C for 24 hours	<3.0	10	Pass
50% Ethanol	40°C for 24 hours	<3.0	10	Pass

2. EU-Regulation (EU) No. 10/2011-Specific Migration of Heavy Metals

- With reference to EN 13130-1:2004, followed by ICP-MS.
- Test condition: 3% Acetic acid, 40°C for 24 hours
- Samples 001~004 Migration ratio: 560ml/3.71dm²

Test Item(s)	Result(s) [mg/kg]	Limit [mg/kg]	Conclusion
	001		
Aluminium	<0.1	1	Pass
Barium	<0.1	1	Pass
Cobalt	<0.05	0.05	Pass
Copper	<0.5	5	Pass
Iron	<1.0	48	Pass
Lithium	<0.1	0.6	Pass
Manganese	<0.05	0.6	Pass
Zinc	<1.0	5	Pass
Nickel	<0.01	0.02	Pass

Test Item(s)	Result(s) [mg/kg]	Limit [mg/kg]	Conclusion
	002		
Aluminium	<0.1	1	Pass
Barium	<0.1	1	Pass
Cobalt	<0.05	0.05	Pass
Copper	<0.5	5	Pass
Iron	<1.0	48	Pass
Lithium	<0.1	0.6	Pass
Manganese	<0.05	0.6	Pass
Zinc	<1.0	5	Pass
Nickel	<0.01	0.02	Pass

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Test Item(s)	Result(s) [mg/kg]	Limit [mg/kg]	Conclusion
	003		
Aluminium	<0.1	1	Pass
Barium	<0.1	1	Pass
Cobalt	<0.05	0.05	Pass
Copper	<0.5	5	Pass
Iron	<1.0	48	Pass
Lithium	<0.1	0.6	Pass
Manganese	<0.05	0.6	Pass
Zinc	<1.0	5	Pass
Nickel	<0.01	0.02	Pass

Test Item(s)	Result(s) [mg/kg]	Limit [mg/kg]	Conclusion
	004		
Aluminium	<0.1	1	Pass
Barium	<0.1	1	Pass
Cobalt	<0.05	0.05	Pass
Copper	<0.5	5	Pass
Iron	<1.0	48	Pass
Lithium	<0.1	0.6	Pass
Manganese	<0.05	0.6	Pass
Zinc	<1.0	5	Pass
Nickel	<0.01	0.02	Pass

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3. EU-Regulation No. 2018/213-Specific Migration of Bisphenol A

- With reference to EN 13130-1:2004, followed by LC/MS/MS
- Test condition: 50% Ethanol, 40°C for 24 hours
- Samples 001~004 Migration ratio: 560ml/3.71dm²

Test Item(s)	Result(s) [mg/kg]	Method Detection Limit [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	001			
Specific migration of BPA	ND	0.02	0.05	Pass

Test Item(s)	Result(s) [mg/kg]	Method Detection Limit [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	002			
Specific migration of BPA	ND	0.02	0.05	Pass

Test Item(s)	Result(s) [mg/kg]	Method Detection Limit [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	003			
Specific migration of BPA	ND	0.02	0.05	Pass

Test Item(s)	Result(s) [mg/kg]	Method Detection Limit [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	004			
Specific migration of BPA	ND	0.02	0.05	Pass

4. EU-Regulation (EU) No. 10/2011-Specific Migration of Phthalates

- With reference to EN 13130-1:2004, followed by GC-MS
- Test condition: 50% Ethanol, 40°C for 24 hours
- Samples 001~004 Migration ratio: 560ml/3.71dm²

Test Items	CAS No.	MDL [mg/kg]	Test Result [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
			001		
Benzylbutyl Phthalate(BBP)	85-68-7	0.5	<0.5	30	Pass
Dibutyl Phthalate(DBP)	84-74-2	0.1	<0.1	0.3	Pass
Di(2-ethylhexyl) phthalate(DEHP)	117-81-7	0.5	<0.5	1.5	Pass
Diisononyl Phthalate(DINP)	68515-48-0	0.5	<0.5	Total 9	Pass
Diisodecyl phthalate(DIDP)	26761-40-0	0.5	<0.5		
Bis(2-ethylhexyl) adipate(DEHA)	103-23-1	0.5	<0.5	18	Pass
Diallyl phthalate(DAP)	131-17-9	0.01	<0.01	0.01	Pass

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Test Items	CAS No.	MDL [mg/kg]	Test Result [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
			002		
Benzylbutyl Phthalate(BBP)	85-68-7	0.5	<0.5	30	Pass
Dibutyl Phthalate(DBP)	84-74-2	0.1	<0.1	0.3	Pass
Di(2-ethylhexyl) phthalate(DEHP)	117-81-7	0.5	<0.5	1.5	Pass
Diisononyl Phthalate(DINP)	68515-48-0	0.5	<0.5	Total 9	Pass
Diisodecyl phthalate(DIDP)	26761-40-0	0.5	<0.5		
Bis(2-ethylhexyl) adipate(DEHA)	103-23-1	0.5	<0.5	18	Pass
Diallyl phthalate(DAP)	131-17-9	0.01	<0.01	0.01	Pass

Test Items	CAS No.	MDL [mg/kg]	Test Result [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
			003		
Benzylbutyl Phthalate(BBP)	85-68-7	0.5	<0.5	30	Pass
Dibutyl Phthalate(DBP)	84-74-2	0.1	<0.1	0.3	Pass
Di(2-ethylhexyl) phthalate(DEHP)	117-81-7	0.5	<0.5	1.5	Pass
Diisononyl Phthalate(DINP)	68515-48-0	0.5	<0.5	Total 9	Pass
Diisodecyl phthalate(DIDP)	26761-40-0	0.5	<0.5		
Bis(2-ethylhexyl) adipate(DEHA)	103-23-1	0.5	<0.5	18	Pass
Diallyl phthalate(DAP)	131-17-9	0.01	<0.01	0.01	Pass

Test Items	CAS No.	MDL [mg/kg]	Test Result [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
			004		
Benzylbutyl Phthalate(BBP)	85-68-7	0.5	<0.5	30	Pass
Dibutyl Phthalate(DBP)	84-74-2	0.1	<0.1	0.3	Pass
Di(2-ethylhexyl) phthalate(DEHP)	117-81-7	0.5	<0.5	1.5	Pass
Diisononyl Phthalate(DINP)	68515-48-0	0.5	<0.5	Total 9	Pass
Diisodecyl phthalate(DIDP)	26761-40-0	0.5	<0.5		
Bis(2-ethylhexyl) adipate(DEHA)	103-23-1	0.5	<0.5	18	Pass
Diallyl phthalate(DAP)	131-17-9	0.01	<0.01	0.01	Pass

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5. EU-Regulation (EU) No. 10/2011-Specific Migration of Primary Aromatic Amine

- With reference to EN 13130-1:2004, followed by Kunststoffe im Lebensmittelverkehr, Book 2, Teil B II,XXI
- Test condition: 3% Acetic Acid, 40°C for 24 hours
- Samples 001~004 Migration ratio: 560ml/3.71dm²

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	001		
Primary Aromatic Amine	ND	ND	Pass

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	002		
Primary Aromatic Amine	ND	ND	Pass

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	003		
Primary Aromatic Amine	ND	ND	Pass

Test Item(s)	Result(s) [mg/kg]	Maximum Permissible Limit [mg/kg]	Conclusion
	004		
Primary Aromatic Amine	ND	ND	Pass

Note: 1. Detection limit is 0.01 mg/kg

6. Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs)

- With reference to EN 13130-1:2004.
- Test condition: 50% Ethanol, 40°C for 24 hours
- Samples 001~004 Migration ratio: 560ml/3.71dm²

Compounds	MDL [mg/kg]	Limit [mg/kg]	Result(s) [mg/kg]			
			001	002	003	004
Naphthalene	0.01	ND	ND	ND	ND	ND
Acenaphthylene	0.01	ND	ND	ND	ND	ND
Acenaphthene	0.01	ND	ND	ND	ND	ND
Fluorene	0.01	ND	ND	ND	ND	ND
Phenanthrene	0.01	ND	ND	ND	ND	ND
Anthracene	0.01	ND	ND	ND	ND	ND
Fluoranthene	0.01	ND	ND	ND	ND	ND
Pyrene	0.01	ND	ND	ND	ND	ND
Chrysene	0.01	ND	ND	ND	ND	ND
Benzo[a]anthracene	0.01	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	0.01	ND	ND	ND	ND	ND
Benzo[j]fluoranthene	0.01	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.01	ND	ND	ND	ND	ND
Benzo[e]pyrene	0.01	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.01	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.01	ND	ND	ND	ND	ND
Dibenzo[ah]anthracene	0.01	ND	ND	ND	ND	ND
Benzo[ghi]perylene	0.01	ND	ND	ND	ND	ND
Conclusion			Pass	Pass	Pass	Pass

Note: Limit was according to client's requirement

7. Germany-German Food & Feed Acts LFGB Section 31 and BfR Recommendation-Sensory Test

- With reference to DIN 10955:2004
- Test condition: Distilled water, 40°C for 24 hours

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

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

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

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

Note: 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

8. Total Cadmium Content Requirement in Annex XVII, Item 23 of the REACH Regulation (EC) No 1907/2006 with its Amendments

Test with reference to Acid digestion and EN 1122:2001 Method B, determination by ICP-OES/ICP-MS.

Sample	Unit	MDL	Limit	Result(s)	Conclusion
001+002	mg/kg	5	<100	<5.0	Pass
003+004	mg/kg	5	<100	<5.0	Pass

9. Total Lead Content Requirement in Annex XVII, Item 63 of the REACH Regulation (EC) No 1907/2006 with its Amendments

Test with reference to in house method, determination by ICP-OES/ICP-MS.

Sample	Unit	MDL	Limit	Result(s)	Conclusion
001+002	mg/kg	10	500	<10.0	Pass
003+004	mg/kg	10	500	<10.0	Pass

10. Chromium (VI) Content

Test with reference to IEC 62321-7-2:2017, analysis was performed by UV-Vis

Sample	Unit	MDL	Limit	Result(s)	Conclusion
001+002	mg/kg	5	1000	<5.0	Pass
003+004	mg/kg	5	1000	<5.0	Pass

Remark: Limit was according to client's requirement

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11. EU-Regulation (EU) No. 10/2011- Phthalates Content

Test with reference to Solvent extraction, analysis was performed by GC-MS.

Test Item(s)	CAS No.	Result(s) [%]	Maximum Permissible Limit [%]	Conclusion
		001+002		
Dibutyl phthalate (DBP)	84-74-2	<0.005	0.05	Pass
Benzylbutyl phthalate (BBP)	85-68-7	<0.005	0.1	Pass
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<0.005	0.1	Pass
Diisononyl phthalate (DINP)	28553-12-0 /68515-48-0	<0.005	0.1	Pass
Diisodecyl phthalate (DIDP)	26761-40-0/ 68515-49-1	<0.005	0.1	Pass

Test Item(s)	CAS No.	Result(s) [%]	Maximum Permissible Limit [%]	Conclusion
		003+004		
Dibutyl phthalate (DBP)	84-74-2	<0.005	0.05	Pass
Benzylbutyl phthalate (BBP)	85-68-7	<0.005	0.1	Pass
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<0.005	0.1	Pass
Diisononyl phthalate (DINP)	28553-12-0 /68515-48-0	<0.005	0.1	Pass
Diisodecyl phthalate (DIDP)	26761-40-0/ 68515-49-1	<0.005	0.1	Pass

12. Total Bisphenol A (BPA) Content

With reference to EPA 3550C:2007, determination by LC-MS-MS.

Compound	CAS No.	Unit	MDL	Limit	Result
					001
Bisphenol A	80-05-7	mg/kg	0.1	<0.1	<0.1
Conclusion					Pass

Compound	CAS No.	Unit	MDL	Limit	Result
					002
Bisphenol A	80-05-7	mg/kg	0.1	<0.1	<0.1
Conclusion					Pass

Compound	CAS No.	Unit	MDL	Limit	Result
					003
Bisphenol A	80-05-7	mg/kg	0.1	<0.1	<0.1
Conclusion					Pass

Compound	CAS No.	Unit	MDL	Limit	Result
					004
Bisphenol A	80-05-7	mg/kg	0.1	<0.1	<0.1
Conclusion					Pass

Remark: 1. Limit was according to client's requirement

- End of Test Report -