



TEST REPORT



TL-961

72220820183
(R2)

02.01.2023

LAB LOCATION: TURKEY
LAB NO. : (7222)082-0183 (Revision 2)
SERVICE TYPE: Regular
DATE IN: March 23, 2022
DATE OUT: May 27, 2022
REVISION DATE: June 28 , 2022
SECOND REVISION DATE: January 03, 2023

COMPANY NAME : TİTİZ PLASTİK DIŞ. TİC. ve SAN. LTD. ŞTİ.
(duygu.ugur@titizplastik.com)
SAMPLE DESCRIPTION : ACCORDION CANISTER
MODEL/STYLE NO : TP-645, SEE APPENDIX C
NAN NO : /
MANUFACTURER : /
PRODUCTION DATE : /
COUNTRY OF ORIGIN : /
COUNTRY OF DESTINATION : /
OVERALL CONCLUSION : **PASS**

SUMMARY OF TEST RESULTS

TEST REQUIRED	Sample A
Overall Migration with 3% Acidic Acid for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*	P
Overall Migration with 10% Ethanol for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*	P
Overall Migration with 95% Ethanol for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*	P

* IAS Accredited Tests

C/N GG/EY

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Our report includes all the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from the date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

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The sample(s) were sent to BV CPS Test Laboratories Ltd.Şti by the client/vendor via courier, cargo and/or manual delivery. Therefore, sampling was not done BV CPS. Test results given in this test report represent only the sample(s) delivered to laboratory.

When a statement of conformity (Pass/Fail) is given regarding the test results the value of measurement uncertainty is evaluated according to the Shared Risk Decision Rule and conformity assessment is reported without evaluating measurement uncertainty.

SUMMARY OF TEST RESULTS	
TEST REQUIRED	Sample A
Overall Migration with Isooctane for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*	P
Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) 2020/1245*	P
Sensory Test (Odour and Taste) - Simulant Water	P
Colorfastness of Plastic	P
Visible Color Migration from Plastic Materials Coming Into Contact with Foodstuff	P
Phthalates*	P
Polycyclic Aromatic Hydrocarbons (PAHs)*	P
Specific Migration of Phthalates for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) 2020/1245	P
Specific Migration of Bisphenol A for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) 2020/1245	P
Total Lead in Non-Metal Substrate*	P
Total Cadmium (Cd) Content *	P
Total Heavy Metal In Substrate	P
Peroxides Value	P
Bisphenol A (BPA) Content*	P
Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 2020/1245 and Its Amendments	P
Short Chain Chlorinated Paraffins (SCCPs) Content*	P
* IAS Accredited Tests	

REMARKS	
1	: P: Pass, F: Fail, DATA: No Evaluation
2	: The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. Unless otherwise is specified, the uncertainty of measurement has not been taken into account when assessing pass/fail of the sample against the requirements of the standard. In case consideration of measurement uncertainties when assessing pass/ fail limits, some results may be in borderline.
3	: The test result, the uncertainties (if applicable) with confidence probability are given on the following pages which are part of this report.
4	: Test reports without authorised signatures are invalid.
5	: The test results included in the report belongs to only tested sample(s).

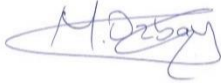
REMARK 6: “Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs” test analysis has been performed by BV- HONG KONG Laboratories as subcontracted. [Report No:52220870544].

REMARK 7: 72220820183 (Revision) test report dated June 28, 2022 is not valid, it is replaced by this report 72220820183 (Revision 2).

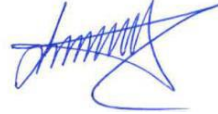
REMARK 8: As per client's request, material type info "Short Chain Chlorinated Paraffins (SCCPs) Content*" test result, test results of 1st & 2nd cycle for "Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) 2020/1245, Specific Migration of Bisphenol A for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) 2020/1245 and Specific Migration of Phthalates for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) 2020/1245 *" tests and Appendix C" have been added to the test report.

REMARK 9: As per client's request "Material" component has been changed.

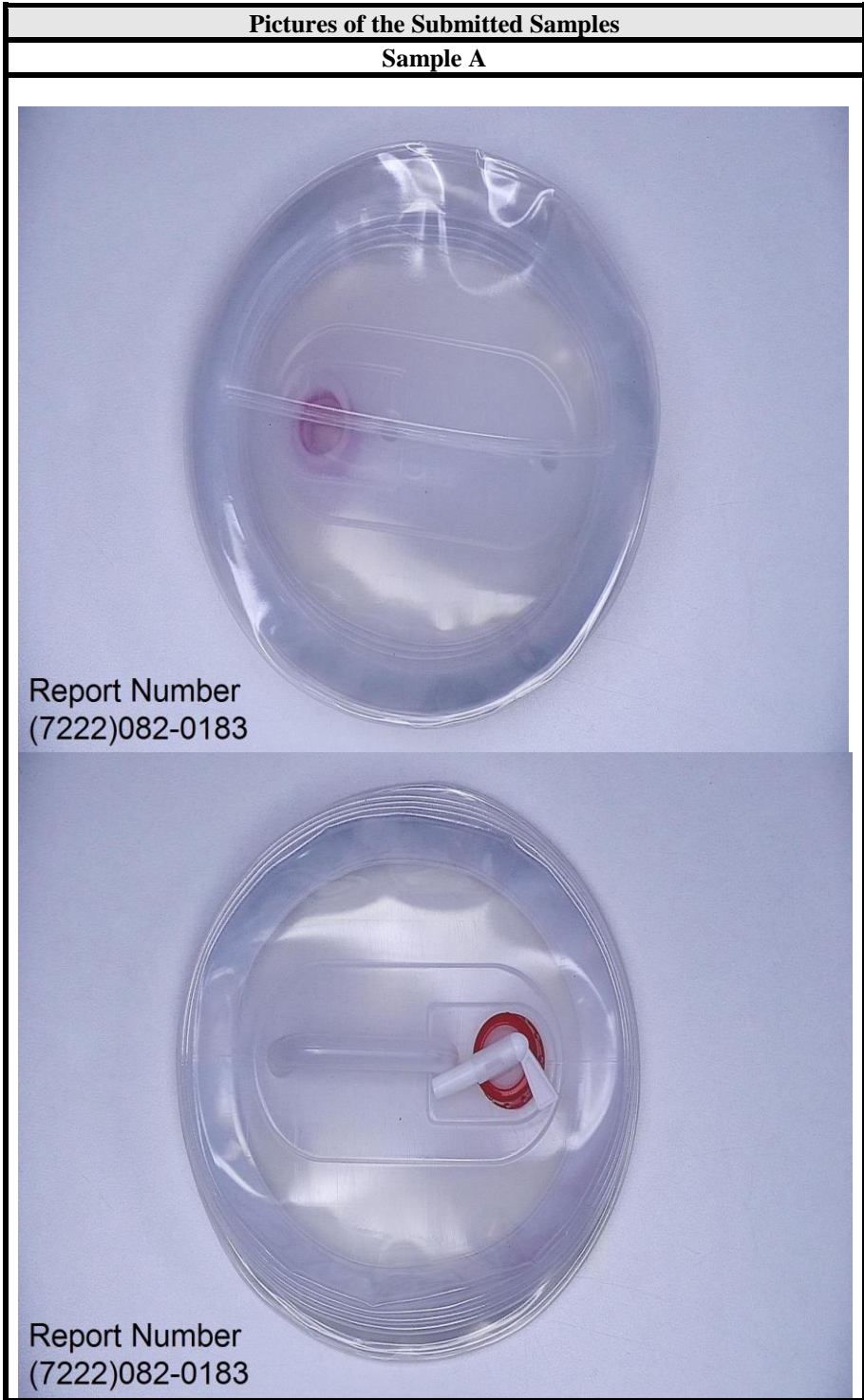
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**BUREAU
VERITAS**

TL-961

72220820183
(R2)

02.01.2023

Component List / List of Materials for Chemical Tests				
Sample	Item No	Component	Material	Color
A	I001	Main	PE-LDPE	Transparent

C/N GG/EY

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PAGE 5 / 27

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TEST RESULTS

Overall Migration with 3% Acetic Acid for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*			
Test Method:	With reference to Commission Regulation (EU) No 10/2011 of 14 January 2011 Annex III and Annex V for selection of condition and EN 1186-1 for selection of test methods; EN 1186-9 aqueous food simulants by article immersion method		
Test Conditions:	10 days at 40°C , 3rd cycle		
Simulant Used:	3% Acetic Acid (W/V) Aqueous Solution		
Result(s) (mg/dm²)			
	I001		
	1st Migration	2nd Migration	3rd Migration
Trial 1 :	<2.5	<2.5	<2.5
Trial 2 :	<2.5	<2.5	<2.5
Trial 3 :	<2.5	<2.5	<2.5
Average :	<2.5	<2.5	<2.5
Conclusion :	Pass		
Note(s) :	n.d. = not detected		
	°C = degree Celsius		
	mg/kg = milligram per kilogram of foodstuff in contact with		
	mg/dm ² = milligram per square decimeter of foodstuff in contact with		
Reporting Limit :	2,5 mg/dm ²		
Permissible Limit :	10 mg/dm ²		
Remark(s) :	<ol style="list-style-type: none"> 1. Permissible limit specified by Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments. 2. Analytical tolerance of aqueous simulants is 2 mg/dm² or 12 mg/kg. 3. Test condition & simulant were specified by client,/ according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments. 4. The volume of simulant used is 0.1 L. 5. The ratio of surface area to volume ratio is 0.6 dm² per 1 kg of foodstuff in contact with. 6. Total food contact surface area of whole article is applied in the calculation of the result according to Commission Regulation (EU) No 10/2011 of 14 January 2011 Article 17. 7. Only food contact surface area of cap, gaskets, stopper or similar sealing article is applied in the calculation of the result. 		

TEST RESULTS

Overall Migration with 10% Ethanol for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*			
Test Method:	With reference to Commission Regulation (EU) No 10/2011 of 14 January 2011 Annex III and Annex V for selection of condition and EN 1186-1 for selection of test methods; EN 1186-9 aqueous food simulants by article immersion method		
Test Conditions:	10 days at 40°C , 3rd cycle		
Simulant Used:	10% Ethanol (W/V) Aqueous Solution		
Result(s) (mg/dm²)			
	I001		
	1st Migration	2nd Migration	3rd Migration
Trial 1 :	<2.5	<2.5	<2.5
Trial 2 :	<2.5	<2.5	<2.5
Trial 3 :	<2.5	<2.5	<2.5
Average :	<2.5	<2.5	<2.5
Conclusion :	Pass		
Note(s) :	n.d. = not detected		
	°C = degree Celsius		
	mg/kg = milligram per kilogram of foodstuff in contact with		
	mg/dm ² = milligram per square decimeter of foodstuff in contact with		
Reporting Limit :	2,5 mg/dm ²		
Permissible Limit :	10 mg/dm ²		
Remark(s) :	<ol style="list-style-type: none"> 1. Permissible limit specified by Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments. 2. Analytical tolerance of aqueous simulants is 2 mg/dm² or 12 mg/kg. 3. Test condition & simulant were specified by client./ according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments. 4. The volume of simulant used is 0.1 L. 5. The ratio of surface area to volume ratio is 0.6 dm² per 1 kg of foodstuff in contact with. 6. Total food contact surface area of whole article is applied in the calculation of the result according to Commission Regulation (EU) No 10/2011 of 14 January 2011 Article 17. 7. Only food contact surface area of cap, gaskets, stopper or similar sealing article is applied in the calculation of the result. 		

TEST RESULTS

Overall Migration with 95% Ethanol for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) No. 2020/1245*

Test Method:	With reference to Commission Regulation (EU) No 10/2011 of 14 January 2011 Annex III and Annex V for selection of condition and EN 1186-1 for selection of test methods; EN 1186-14 substitute test.		
Test Conditions:	10 days at 40°C, 3 rd cycle		
Simulant Used:	95% Ethanol (V/V) Aqueous Solution		
Result(s) (mg/dm²)			
	I001		
	1st Migration	2nd Migration	3rd Migration
Trial 1 :	<2.5	<2.5	<2.5
Trial 2 :	<2.5	<2.5	<2.5
Trial 3 :	<2.5	<2.5	<2.5
Average :	<2.5	<2.5	<2.5
Conclusion :	Pass		
Note(s) :	n.d. = not detected		
	°C = degree Celsius		
	mg/kg = milligram per kilogram of foodstuff in contact with		
	mg/dm ² = milligram per square decimeter of foodstuff in contact with		
	* Further verification by vegetable oil is recommended for compliance confirmation if the material of the sample is not Nylon, PVC, Organic Coating, Hard and Rigid Plastics, PS, SAN, ABS, Melamine.		
Reporting Limit :	2,5 mg/dm ²		
Permissible Limit :	10 mg/dm ²		
Remark(s) :	1. Permissible limit specified by Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments.		
	2. Analytical tolerance of fatty food simulants is 3 mg/dm ² or 20 mg/kg.		
	3. Test condition & simulant were specified by client,/ according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments.		
	4. The volume of simulant used is 0.1 L.		
	5. The ratio of surface area to volume ratio is 0.6 dm ² per 1 kg of foodstuff in contact with.		
	6. Total food contact surface area of whole article is applied in the calculation of the result according to Commission Regulation (EU) No 10/2011 of 14 January 2011 Article 17		
	7. Only food contact surface area of cap, gaskets, stopper or similar sealing article is applied in the calculation of the result.		

TEST RESULTS

Overall Migration with Isooctane for Plastic Materials in Contact with Foodstuffs per Commission Regulation (EU) 2020/1245*

Test Method:	With reference to Commission Regulation (EU) No 10/2011 of 14 January 2011 Annex III and Annex V for selection of condition and EN 1186-1 for selection of test methods; EN 1186-14 substitute test.		
Test Conditions:	2 days at 20°C	(3 rd Migration)	
Simulant Used:	Isooctane		
Result(s) (mg/dm²)			
	I001		
	1st Migration	2nd Migration	3rd Migration
Trial 1 :	<2.5	<2.5	<2.5
Trial 2 :	<2.5	<2.5	<2.5
Trial 3 :	<2.5	<2.5	<2.5
Average :	<2.5	<2.5	<2.5
Conclusion :	Pass		
Note(s) :	n.d. = not detected		
	°C = degree Celsius		
	mg/kg = milligram per kilogram of foodstuff in contact with		
	mg/dm ² = milligram per square decimeter of foodstuff in contact with		
	* Further verification by vegetable oil is recommended for compliance confirmation if the material of the sample is not Nylon, PVC, Organic Coating, Hard and Rigid Plastics, PS, SAN, ABS, Melamine.		
Reporting Limit :	2,5 mg/dm ²		
Permissible Limit :	10 mg/dm ²		
Remark(s) :	<ol style="list-style-type: none"> 1. Permissible limit specified by Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments. 2. Analytical tolerance of fatty food simulants is 3 mg/dm² or 20 mg/kg 3. Test condition & simulant were specified by client,/ according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments. 4. The volume of simulant used is 0.1 L. 5. The ratio of surface area to volume ratio is 0.6 dm² per 1 kg of foodstuff in contact with. 6. Total food contact surface area of whole article is applied in the calculation of the result according to Commission Regulation (EU) No 10/2011 of 14 January 2011 Article 17 7. Only food contact surface area of cap, gaskets, stopper or similar sealing article is applied in the calculation of the result. 		

TEST RESULTS

Specific Migration of Heavy Metals for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 2020/1245*

Test Condition: 3% Acetic acid: 40°C, 10 days, 3 cycle

Parameter	Simulant Used	Unit	Results I001			Maximum Allowable Limit
			1 st cycle	2 nd cycle	3 rd cycle	
Food contact surface area	-	dm ²	0.6	0.6	0.6	-
Volume of simulant used	-	mL	100	100	100	-
Aluminum (Al)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Barium (Ba)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	1
Cobalt (Co)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Copper (Cu)	3% Acetic acid	mg/kg	<0.5	<0.5	<0.5	5
Iron (Fe)	3% Acetic acid	mg/kg	<5	<5	<5	48
Lithium (Li)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	0.6
Manganese (Mn)	3% Acetic acid	mg/kg	<0.1	<0.1	<0.1	0.6
Zinc (Zn)	3% Acetic acid	mg/kg	<3	<3	<3	5
Nickel (Ni)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.02
Antimony (Sb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.04
Europium (Eu)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Gadolinium (Gd)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Lanthanum (La)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Sum of Europium (Eu), Gadolinium (Gd), Lanthanum (La), and Terbium (Tb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	0.05
Arsenic (As)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	ND
Cadmium (Cd)	3% Acetic acid	mg/kg	<0.002	<0.002	<0.002	ND (0.002)
Chromium (Cr)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	ND
Lead (Pb)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	ND
Mercury (Hg)	3% Acetic acid	mg/kg	<0.01	<0.01	<0.01	ND
Conclusion	-	-	PASS	PASS	PASS	-

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

Method: EN 13130-1: 2004 and analysis by Inductively Coupled Argon Plasma Spectrometer (ICP).

Remark: 1) The migration test is carried out according to EC Regulation No. 2020/1245
2) Selected tests were specified by client.

C/N GG/EY

TEST RESULTS

Sensory Test (Odour and Taste) - Simulant Water

Test method: BV CPS In House Method, CPSD-AN-00084-MTHD, DIN 10955

Test condition: Water, 10 Days– 40°C

-	Results				Conc.
	Parameter	Limit	Conc.	Unit	
I001	Change of Odour	≤ 2.5	0.5	-	Pass
	Change of Taste	≤ 2.5	0.5	-	Pass

Off-odour in comparison with control
 0 = no perceptible off-odour
 1 = off-odour just perceptible (but still difficult to define)
 2 = slight off-odour
 3 = distinct off-odour
 4 = strong off-odour

Off-taste in comparison with control
 0 = no perceptible off-taste
 1 = off-taste just perceptible (but still difficult to define)
 2 = slight off-taste
 3 = distinct off-taste
 4 = strong off-taste

TEST RESULTS

Colorfastness of Plastics

Test method: CPSD-AN-00759-MTHD

Test Condition: 5 hours, 50°C

Tested Item(s) I001	Result (Grade) %2 Acetic Acid	Result (Grade) 10% Ethanol	Limit (Grade)
Colorfastness	5	5	5
Conclusion	PASS		

TEST RESULTS

Visible Color Migration from Plastic Materials Coming Into Contact with Foodstuff

Test Method: CPSD-AN-00109-MTHD

Test Condition: 10 days at 40°C, 3rd cycle

Tested Item(s)	Result 1 st cycle	Permissible Limit	Conclusion
Visible Color Migration	%99	>95% optical transmission	Pass

Tested Item(s)	Result 2 nd cycle	Permissible Limit	Conclusion
Visible Color Migration	%99	>95% optical transmission	Pass

Tested Item(s)	Result 3 rd cycle	Permissible Limit	Conclusion
Visible Color Migration	%99	>95% optical transmission	Pass

TEST RESULT

PHTHALATES*

Test Method : BV In-house Test Method CPSD-AN-00095-MTHD
Solvent extraction and analysis by Gas Chromatograph Mass Spectrometer (GC-MS)
or Liquid Chromatograph Mass Spectrometer (LC-MS).

Limit:	1000 mg/kg / Each
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-	Results			Conclusion	
	Tested Item(s)	Detected Analytes	Conc.		Unit
I001		DBP (Dibutylphthalate)	ND	mg/kg	PASS
		BBP (Butylbenzylphthalate)	ND	mg/kg	PASS
		DEHP (Di(2-ethylhexyl)-phthalate)	ND	mg/kg	PASS
		DNOP (Di-n-octylphthalate)	ND	mg/kg	PASS
		DIDP (Diisodecylphthalate)	ND	mg/kg	PASS
		DINP (Di-iso-nonylphthalate)	ND	mg/kg	PASS
		DIBP (Diisobutylphthalate)	ND	mg/kg	PASS
	Overall Conclusion	-	-	-	PASS

Remark1:

Note:

ND = Not detected

% = percent = 10000 mg/kg

Detection Limit (mg/kg): Each 50; Sum 150

">" = More than

mg/kg = milligram per kilogram

Conc. = Concentration

Remark2:

- The list of phthalates is summarized in table of Appendix

Remark3:

Recommended Max. limit specified by entries 51 and 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC)

TEST RESULTS

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

Test method: With reference to test method mentioned in German AfPS GS 2014:01 PAK.

Parameter	Unit	Results	Requirement
-	-	I001	Each of 18 PAHs < 0.2 mg/kg
Naphthalene	mg/kg	ND	
Benzo (a) anthracene (BaA)	mg/kg	ND	
Chrysene (CHR)	mg/kg	ND	
Benzo (b) fluoranthene (BbF)	mg/kg	ND	
Benzo (j) fluoranthene (BjF)	mg/kg	ND	
Benzo (k) fluoranthene (BkF)	mg/kg	ND	
Benzo (e) pyrene (BaP)	mg/kg	ND	
Benzo (a) pyrene (BeP)	mg/kg	ND	
Indeno (1,2,3-cd) pyrene (IPY)	mg/kg	ND	
Dibenzo (a,h) anthracene (DBA)	mg/kg	ND	
Benzo (g,h,i) perylene (BPE)	mg/kg	ND	
Phenanthrene (PHE)	mg/kg	ND	
Anthracene (ANT)	mg/kg	ND	
Fluoranthene (FLT)	mg/kg	ND	
Pyrene (PYR)	mg/kg	ND	
Conclusion	-	PASS	

Remark1

Note:

ND = Not detected
% = percent = 10000 mg/kg
Detection Limit (mg/kg): Each 0.2

“>” = More than
mg/kg = milligram per kilogram

Conc. = Concentration

Remark2:

- The list of phthalates is summarized in table of Appendix

TEST RESULT**Bisphenol A (BPA) Content****Test Method** : BV CPS In House Method CPSD-AN-00169 MTHD

Limit :	0.1 mg/kg
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Test Item(s)	Result	Unit	Conclusion
I001	0.028	mg/kg	PASS

Note / Key :

ND = Not detected “>” = Greater than
mg/kg = milligram(s) per kilogram = ppm = part(s) per million No. = Number
Detection Limit (mg/kg) - 0.1

TEST RESULTS

Specific Migration of Phthalates for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) 2020/1245

Test Condition: 3% Acetic acid, 10 days at 40°C (3. cycle)

Parameter	Simulant Used	Unit	Result I001			Maximum Allowable Limit
			(1 st cycle)	(2 nd cycle)	(3 rd cycle)	
Butyl benzyl phthalate (BBP)	3% Acetic acid	mg/kg	<0.3	<0.3	<0.3	30
Di-2-ethylhexyl phthalate (DEHP)	3% Acetic acid	mg/kg	<0.3	<0.3	<0.3	1.5
Dibutyl phthalate (DBP)	3% Acetic acid	mg/kg	<0.3	<0.3	<0.3	0.3
Di-iso-decyl phthalate (DIDP) and Di-iso-nonyl phthalate (DINP)	3% Acetic acid	mg/kg	<0.6	<0.6	<0.6	9
Conclusion	-	-	PASS			-

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

Method: EN 13130-1: 2004 and analysis by Liquid Chromatograph Mass Spectrometer (LC-MS).

Remark: 1) The migration test is carried out according to EC Regulation No. 2020/1245

TEST RESULTS

Specific Migration of Bisphenol A for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) 2020/1245

Test Condition: 10 days at 40°C (3% Acetic acid) (3 cycle)

Parameter	Simulant Used	Unit	Result	Maximum Allowable Limit
			I001	
Food contact surface area	-	dm ²	0.6	-
Volume of stimulant used	-	mL / g	100	0.05
	3% Acetic acid (1 st cycle)	mg/l	<0.01	
	3% Acetic acid (2 nd cycle)	mg/l	<0.01	
	3% Acetic acid (3 rd cycle)	mg/l	<0.01	
Conclusion	-	-	PASS	-

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

Method: EN 13130-1: 2004 and CEN/TS 13130-13:2005.

Remark: 1) The migration test is carried out according to EC Regulation No. 2020/1245

TEST RESULT

TOTAL HEAVY METAL in SUBSTRATE

Test Method : Bv In House Test Method CPSD-AN-00164-MTHD

LIMIT	REQUIREMENT
Zirconium (Zr)	100
Chromium (Cr)	10
Hafnium (Hf)	100
Vanadium (V)	20

Parameter	Unit	Result
-	-	I001
Zirconium (Zr)	mg/kg	ND
Chromium (Cr)	mg/kg	ND
Hafnium (Hf)	mg/kg	ND
Vanadium (V)	mg/kg	ND
Conclusion	-	PASS

Note-Remark:

ND = Not detected

“>” = Greater than

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

Detection Limit: Cr, V: 1 mg/kg ; Zr,Hf: 10 mg/kg

TEST RESULTS

Specific Migration of Primary Aromatic Amine for Plastic Materials in Contact with Foodstuffs – Commission Regulation (EU) No. 2020/1245 and Its Amendments

Test Condition: 3% Acetic acid: 40 °C, 10 days

Parameter	Unit	Result			Maximum Allowable Limit
		I001			
		1 st Migration	2 nd Migration	3 rd Migration	
Food contact surface area	dm ²	1.00	1.00	1.00	-
Volume of simulant used	mL	167	167	167	-
Aniline	mg/kg	<0.002	<0.002	<0.002	0.01 (sum)
2,4-Dimethylaniline / 2,4-xylydine	mg/kg	<0.002	<0.002	<0.002	
2,6-Dimethylaniline / 2,6-xylydine	mg/kg	<0.002	<0.002	<0.002	
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
p-Phenylenediamine / 1,4-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	
2,6-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	
1,5-Diaminenaphthalene	mg/kg	<0.002	<0.002	<0.002	
Conclusion	-	PASS	PASS	PASS	-

Parameter	Unit	Result			Maximum Allowable Limit
		I001			
		1 st Migration	2 nd Migration	3 rd Migration	
Food contact surface area	dm ²	1.00	1.00	1.00	-
Volume of simulant used	mL	167	167	167	-
4-aminobiphenyl / 4-biphenylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-anisidine / 2-methoxyaniline	mg/kg	<0.002	<0.002	<0.002	0.002
Benzidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-aniline / p-chloroaniline	mg/kg	<0.002	<0.002	<0.002	0.002
4-Chloro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Diaminodiphenylether / 4,4'-oxydianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002
4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane	mg/kg	<0.002	<0.002	<0.002	0.002

C/N GG/EY



BUREAU
VERITAS

TL-961

72220820183
(R2)

02.01.2023

2-Methoxy-5-methylaniline / p-cresidine	mg/kg	<0.002	<0.002	<0.002	0.002
4-Methoxy-m-phenylenediamine / 2,4-diaminoanisole	mg/kg	<0.002	<0.002	<0.002	0.002
o-Toluidine / 2-aminotoluene	mg/kg	<0.002	<0.002	<0.002	0.002
2,4-Toluenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3-Dimethylbenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
2,4,5-Trimethylaniline	mg/kg	<0.002	<0.002	<0.002	0.002
m-Phenylenediamine / 1,3-phenylenediamine	mg/kg	<0.002	<0.002	<0.002	0.002
2-naphthylamine	mg/kg	<0.002	<0.002	<0.002	0.002
o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-o-tolylazo-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
5-nitro-o-toluidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dichlorobenzidine	mg/kg	<0.002	<0.002	<0.002	0.002
3,3'-dimethoxybenzidine / o-dianisidine	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4,4'-thiodianiline	mg/kg	<0.002	<0.002	<0.002	0.002
4-amino azobenzene	mg/kg	<0.002	<0.002	<0.002	0.002
Conclusion	-	PASS	PASS	PASS	-

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

Method: EN 13130-1: 2004, LC-MS/ LC-MS/MS analysis.

Remark: 1) The migration test is carried out according to EC Regulation No. 10/2011 and the corresponding regulatory statutes.
2) Selected test, test simulant, test condition were specified by client.

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VERITAS**

TL-961

72220820183
(R2)

02.01.2023

APPENDIX A

List of Phthalates:					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Dipentyl phthalate (DPP)	131-18-0	10	Dibutyl phthalate (DBP)	84-74-2
2	N-pentyl-isopentylphthalate (iPnPP)	776297-69-9	11	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6
3	Diisopentylphthalate (DiPP)	605-50-5	12	Di-n-hexyl phthalate (DnHP)	84-75-3
4	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	13	Di-iso-decyl phthalate (DIDP)	26761-40-0 and 68515-49-1
5	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	14	Di-isononyl phthalate (DINP)	28553-12-0 and 68515-48-0
6	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	15	Di-n-octyl phthalate (DNOP)	117-84-0
7	Diisobutyl phthalate (DiBP)	84-69-5	16	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear Or Di-hexylphthalate branched and linear	68515-50-4
8	Benzyl butyl phthalate (BBP)	85-68-7	17	1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters; with $\geq 0.3\%$ of dihexyl phthalate 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68515-51-5 68648-93-1
9	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	18	Dicyclohexyl phthalate	84-61-7

APPENDIX B

List of Polycyclic Aromatic Hydrocarbons:					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Naphthalene	91-20-3	13	Dibenzo (a,h) anthracene	53-70-3
2	Acenaphthylene	208-96-8	14	Benzo (g,h,i) perylene	191-24-2
3	Acenaphthene	83-32-9	15	Benzo (b) fluoranthene	205-99-2
4	Fluorene	86-73-7	16	Benzo (k) fluoranthene	207-08-9
5	Phenanthrene	85-01-8	17	Benzo (j) fluoranthene	205-82-3
6	Antracene	120-12-7	18	Benzo (e) pyrene	192-97-2
7	Fluoranthene	206-44-0	19	-	-
8	Pyrene	129-00-0	20	-	-
9	Benzo (a) anthracene	56-55-3	21	-	-
10	Chrysene	218-01-9	22	-	-
11	Benzo (a) pyrene	50-32-8	23	-	-
12	Indeno (1,2,3-cd) pyrene	193-39-5	24	-	-

C/N GG/EY



BUREAU
VERITAS

TL-961

72220820183
(R2)

02.01.2023

APPENDIX C

Aşağıda yazılan ürünler ile "Test edilen" ürün aynı hammadde ve renkte üretilmiştir.

The below products have been produced with the same raw material and color as the "Tested" products.

AP-9500	AP-9426	AP-9261	KC-207	KC-386	KC-102	TP-489	TP-730	TP-329
AP-9501	AP-9427	AP-9073	KC-210	KC-240	KC-103	TP-134	TP-731	TP-204
AP-9502	AP-9429	AP-9187	KC-211	KC-301	KC-104	TP-242	TP-732	TP-670
AP-9503	AP-9432	AP-9188	KC-212	KC-302	KC-105	AP-9255	TP-733	TP-205
AP-9504	AP-9434	AP-9189	KC-245	KC-305	KC-345	TP-616	TP-734	TP-293
AP-9505	AP-9443	AP-9184	KC-246	KC-360	KC-353	TP-596	TP-735	TP-193
AP-9506	AP-9444	AP-9161	KC-247	KC-381	KC-355	TP-597	TP-736	TP-173
AP-9507	AP-9449	AP-9169	KC-248	KC-382	KC-356	TP-598	TP-737	TP-170
AP-9508	AP-9454	AP-9167	KC-251	KC-383	KC-357	TP-660	TP-738	TP-182
AP-9509	AP-9455	AP-9226	KC-255	KC-390	KC-363	TP-269	TP-739	TP-203
AP-9510	AP-9458	AP-9280	KC-256	KC-391	KC-120	TP-136	TP-740	TP-202
AP-9511	AP-9459	AP-1084	KC-257	KC-392	KC-121	TP-326	TP-741	TP-497
AP-9512	AP-9461	AP-1085	KC-261	KC-393	KC-122	TP-135	TP-742	TP-500
AP-9513	AP-9469	AP-1088	KC-385	KC-394	KC-123	TP-186	TP-743	TP-641
AP-9514	AP-9473	AP-1023	KC-519	KC-395	KC-126	TP-656	TP-744	TP-231
AP-9515	AP-9475	AP-1024	KC-530	KC-396	KC-127	TP-658	TP-745	TP-230
AP-9516	AP-9477	AP-1583	KC-531	KC-401	KC-128	TP-679	TP-746	TP-229
AP-9517	AP-9479	AP-1086	KC-532	KC-402	KC-151	TP-506	TP-754	TP-624
AP-9518	AP-9480	AP-1087	KC-536	KC-405	KC-153	TP-508	TP-755	TP-623
AP-9519	AP-9482	AP-1030	KC-537	KC-410	KC-154	TP-678	TP-756	TP-665
AP-9042	AP-9483	AP-1031	KC-539	KC-415	KC-155	TP-585	TP-783	TP-671
AP-9027	AP-9484	AP-1589	KC-540	KC-107	KC-157	TP-572	TP-784	TP-556
AP-9281	AP-9485	AP-1144	KC-541	KC-108	KC-158	TP-527	TP-785	TP-177
AP-9019	AP-9487	AP-1081	KC-542	KC-310	KC-159	TP-524	TP-786	TP-1352
AP-9022	AP-9491	AP-1091	KC-543	KC-311	KC-162	TP-522	TP-787	TP-181
AP-9095	AP-9492	AP-1097	KC-546	KC-312	KC-163	TP-569	TP-788	TP-615
AP-9068	AP-9493	AP-1585	KC-201	KC-313	KC-164	TP-161	TP-789	TP-310
AP-9066	AP-9494	AP-1587	KC-202	KC-314	KC-165	TP-184	TP-790	TP-309
AP-1053	AP-9497	AP-1239	KC-203	KC-315	KC-166	TP-107	TP-791	TP-305
AP-9080	AP-9498	AP-1238	KC-204	KC-316	KC-167	TP-138	TP-792	TP-504
AP-9196	AP-9499	AP-1128	KC-205	KC-317	KC-171	TP-705	TP-793	TP-1363
AP-9194	AP-9419	AP-9058	KC-206	KC-263	KC-172	TP-708	TP-794	TP-1364
AP-9069	AP-9420	AP-9174	KC-293	KC-264	KC-173	TP-704	TP-795	TP-210
AP-1046	AP-9421	AP-9175	KC-370	KC-358	KC-180	TP-707	TP-796	TP-495
AP-9197	AP-9422	AP-9037	KC-371	KC-359	KC-185	TP-198	TP-797	TP-498
AP-1059	AP-9423	AP-9038	KC-372	KC-346	KC-190	TP-194	TP-798	TP-636
AP-9011	AP-9424	AP-9039	KC-510	KC-199	KC-191	TP-290	TP-799	TP-227
AP-9149	AP-9425	AP-9040	KC-511	KC-200	KC-221	TP-294	TP-800	TP-691
AP-9296	AP-9426	AP-9041	KC-513	KC-320	KC-222	TP-587	TP-801	TP-567
AP-9133	AP-9264	AP-9250	KC-514	KC-321	KC-223	TP-586	TP-802	TP-645

C/N GG/EY

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PAGE 25 / 27

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BUREAU
VERITAS

TL-961

72220820183
(R2)

02.01.2023

AP-9134	AP-9423	AP-9053	KC-515	KC-322	KC-224	TP-243	TP-803
AP-9224	AP-9424	AP-9050	KC-517	KC-323	KC-225	TP-300	TP-804
AP-1096	AP-9415	AP-1127	KC-518	KC-324	KC-226	TP-301	TP-805
AP-9246	AP-9416	AP-9096	KC-288	KC-325	KC-227	TP-493	TP-806
AP-9193	AP-9200	AP-9198	KC-289	KC-550	KC-229	TP-494	TP-807
AP-9195	AP-9052	AP-9447	KC-290	KC-285	KC-230	TP-256	TP-808
AP-9144	AP-9051	AP-9032	KC-291	KC-286	KC-231	TP-197	TP-809
AP-1251	AP-9446	AP-1252	KC-292	KC-287	KC-232	TP-138	TP-810
TP-266	TP-197	TP-566	KC-281	KC-269	KC-266	TP-194	TP-567
TP-620	TP-523	TP-288	KC-282	KC-270	KC-267	TP-294	TP-256
TP-421	TP-261	TP-183	KC-283	KC-280	KC-268	TP-261	TP-266
TP-879	AP-9015	AP-9419	AP-9138	AP-9414	TP-152	TP-331	TP-717
TP-873	AP-9059	AP-9128	AP-9448	AP-9404	TP-153	TP-335	TP-517
TP-874	AP-9060	AP-9179	AP-9065	AP-9406	TP-112	TP-336	TP-655
TP-875	AP-9310	AP-9147	AP-9364	AP-9127	TP-448	TP-330	TP-692
TP-864	AP-9306	AP-1457	AP-9360	AP-9425	TP-447	TP-505	TP-507
TP-865	AP-9305	AP-1466	AP-9363	AP-9244	TP-446	TP-435	TP-1358
TP-866	AP-9462	AP-1454	AP-9362	AP-9474	TP-286	TP-547	TP-1360
TP-614	AP-9463	AP-1455	AP-9361	AP-9122	TP-686	TP-503	TP-253
TP-657	AP-9154	AP-1452	AP-9366	AP-9225	TP-150	TP-578	TP-252
TP-573	AP-9153	AP-1451	AP-9365	AP-9467	TP-502	TP-105	TP-254
TP-574	AP-9152	AP-1458	AP-9359	AP-9466	TP-610	TP-103	TP-635
TP-575	AP-9115	AP-1453	AP-1042	AP-9428	TP-119	TP-106	TP-634
TP-576	AP-9114	AP-1058	AP-1004	AP-9220	TP-118	TP-857	TP-226
TP-577	AP-9113	AP-9321	AP-9441	AP-1070	TP-120	TP-208	TP-225
TP-259	AP-9112	AP-9320	AP-9437	AP-1064	TP-121	TP-200	TP-555
TP-125	AP-9111	AP-9193	AP-9435	AP-1069	TP-491	TP-201	TP-175
TP-680	AP-9124	AP-9192	AP-9438	AP-1066	TP-490	TP-778	TP-1351
TP-297	AP-9486	AP-9191	AP-9436	AP-1065	TP-267	TP-777	TP-178
TP-264	AP-9086	AP-9190	AP-9439	AP-1067	TP-265	TP-496	TP-117
TP-147	AP-9087	AP-9121	AP-9442	AP-1068	TP-235	TP-499	TP-1353
TP-493	AP-9260	AP-9142	AP-9440	AP-1072	TP-237	TP-621	TP-1357
TP-494	AP-9262	AP-9141	AP-9104	AP-9145	TP-113	TP-622	TP-681
AP-1198	AP-9460	AP-9140	AP-9103	AP-9116	TP-725	TP-593	TP-195
TP-528	AP-9388	AP-9132	AP-9101	AP-9445	TP-729	TP-592	TP-420
TP-529	AP-9269	AP-9131	AP-9102	AP-9257	TP-728	TP-594	TP-149
TP-530	AP-9268	AP-9130	AP-9007	AP-9157	TP-727	TP-492	TP-136
TP-533	AP-9267	AP-9077	AP-9119	AP-9156	TP-726	TP-557	TP-651
TP-534	AP-9266	AP-9047	AP-9110	AP-9263	TP-720	TP-558	TP-139
TP-535	AP-9272	AP-9046	AP-9109	AP-9155	TP-721	TP-590	TP-146
TP-564	AP-9265	AP-9043	AP-9108	AP-9258	TP-724	TP-168	TP-144
TP-342	AP-9271	AP-9048	AP-9107	AP-9158	TP-723	TP-131	TP-515
TP-343	AP-9270	AP-9045	AP-9002	AP-9049	TP-722	TP-114	TP-101
TP-115	AP-9082	AP-9044	AP-9430	TP-238	TP-701	TP-185	TP-516
TP-666	AP-9081	AP-9076	AP-9431	TP-239	TP-268	TP-109	TP-102
TP-811	AP-9199	AP-9159	AP-2001	TP-111	TP-132	TP-108	TP-158
TP-812	AP-9452	AP-9230	AP-1122	TP-180	TP-133	TP-176	TP-750
TP-813	AP-9451	AP-9092	AP-9001	TP-024	TP-260	TP-199	TP-749

C/N GG/EY



BUREAU
VERITAS

TL-961

72220820183
(R2)

02.01.2023

TP-814	AP-9450	AP-9091	AP-9312	TP-303	TP-255	TP-259	TP-748
TP-815	AP-9453	AP-9090	AP-9311	TP-221	TP-211	TP-501	TP-747
TP-816	AP-9222	AP-9143	AP-9089	TP-220	TP-190	TP-123	TP-752
TP-817	AP-9481	AP-9078	AP-9163	TP-360	TP-128	TP-148	TP-753
TP-298	AP-9010	AP-9079	AP-9021	TP-307	TP-179	TP-287	TP-130
TP-668	AP-9009	AP-9471	AP-9457	TP-540	TP-652	TP-284	TP-685
TP-520	AP-9020	AP-9470	AP-9456	TP-160	TP-667	TP-285	TP-154
TP-764	AP-9488	AP-9123	AP-9181	TP-851	TP-855	TP-550	TP-852
TP-765	AP-9011	AP-9233	AP-1222	TP-703	TP-218	TP-582	TP-320
TP-766	AP-9061	AP-9221	AP-2035	TP-328	TP-212	TP-304	TP-321
TP-767	AP-9029	AP-9249	AP-2036	TP-233	TP-333	TP-142	TP-583
TP-769	AP-9418	AP-9229	AP-1016	TP-234	TP-334	TP-127	TP-525
TP-216	AP-9417	AP-9303	AP-1338	TP-145	TP-340	TP-143	TP-189
TP-565	AP-9028	AP-9243	AP-9405	TP-653	TP-337	TP-126	TP-188
TP-214	AP-9031	AP-9146	AP-9413	TP-110S	TP-332	TP-853	TP-164



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