

RAPPORTO DI PROVA / TEST REPORT

NUMBER

1574\FPM\FDC\20_3

ISSUE DATE

23/11/2020

BUSINESS AREA

BA Product Conformity Assessment

LABORATORY

Food Contact

SPECIMEN DESCRIPTION

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST

CUSTOMERE.T.I. s.r.l.
Via dell'Industria, 3
40043 Marzabotto (BO)**REFERENCE STANDARD**

D.P.R. 777 dated 23/08/1982, D.L. 108 dated 25/01/1992, D.M.34 dated 21/3/73
Regulations 1935/2004/EC GUCE L 338 dated 13/11/04 and 1895/2005/EC GUCE L 302 dated 19/11/2005.
Regulation 10/2011/EU, GUUE L 12 dated 15/01/2011, and subsequent updatings.
UNI EN 1186 1÷15:2003 (see the overall migration test description for the identification of the technical standard part)

GENERALITIES

- Sample receiving date: 18/09/2020
- Analysis start date: 06/10/2020
- Analysis end date: 18/11/2020
- Laboratory site: Viale Lombardia, 20/B – 20021 Bollate (MI)
- Test site: Viale Lombardia, 20/B – 20021 Bollate (MI)
- Deviation from test methods: NO

SAMPLE DESCRIPTION

- Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST

SAMPLING

The sampling for the test has been done drawing casually part of the sample in our possession. Sampling was carried out according to the following procedures.

Subject that performed the sampling

Sampling report

Notified Body

TAB

CSI-CERT

Customer

Other

Reference number

Date of issue

Reference number

Date of issue

Reference number

Date of issue

Reference number

Date of issue

Reference number

Date of issue

DECLARATION

The test results of the present report are related exclusively to the tested sample, as received.
The present test report cannot be partially reproduced without the authorization of CSI managing Director.
The uncertainties are estimated as extended uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor = 2.
(*)Not under ACCREDIA accreditation.

PERFORMED DETERMINATIONS

1) DETERMINATION OF THE OVERALL MIGRATION

MI_011_FPM_FDC_18_rev.0, UNI EN 1186-1:2003 + UNI EN 1186-3:2003

D.P.R. 777 dated 23/08/1982, D.L. 108 dated 25/01/1992, D.M.34 dated 21/3/73 S.O. GU n° 104 dated 20/04/73 and subsequent updatings.

Regulation 10/2011/EU, GUUE L 12 dated 15/01/2011, and subsequent updatings.

Regulation 1935/2004/EC GUCE L 338 dated 13/11/04.

Simulant	Contact condition
Acetic acid in aqueous solution 3% w/v - simulant B	1 hour at 100°C
Ethanol 20% - simulant C	1 hour at 100°C
MPPO - simulant E	10 days at 40°C

SIM. B – C:

Migration test was carried out by **Article Filling**.

SURFACE (dm²): 0.78

VOLUME (dl): 0.5

LOD (limit of detection): 1 mg/dm²

Simulant	Contact condition
MPPO - simulant E	10 days at 40°C

SIM. E:

Migration test was carried out by **Article Filling**.

SURFACE (dm²): 0.39

VOLUME (g): 2

LOD (limit of detection): 1 mg/dm²

2) SPECIFIC MIGRATION: PREPARATION OF THE CONTACT WITH SIMULANTS WITHOUT OVERALL MIGRATION TEST (*)

MI_789200821_2015_Rev.0

Preparation of the contact between the sample and the simulant with subsequent determination of specific migration of any compound, at the conditions indicated by the customer.

Simulant	Contact condition
Acetic acid in aqueous solution 3% w/v - simulant B	5 minutes at 100° C
Ethanol 20% - simulant C	5 minutes at 100° C

Migration test was carried out by **Total Immersion**.

SURFACE (dm²): 3.9 (5 capsuls)

VOLUME (dl): 1

LOD (limit of detection): 1 mg/dm²

3) SPECIFIC MIGRATION IN MPPO: PREPARATION OF CONTACT MPPO, SIMULANT E, AS REG.10 / 2011. (789300741) (*)

MI_789300741_2015_Rev.0

Reference Standard: UNI EN 1186-1:2003 + UNI EN 1186-13:2003 METHOD B - Adsorption from (MPPO) - TENAX Method

Simulant	Contact condition
MPPO - simulant E	10 days at 60°C

Migration test was carried out by **Total Immersion**.

SURFACE (dm²): 0.39

VOLUME (g): 2

LOD (limit of detection): 1 mg/dm²

4) SPECIFIC MIGRATION OF PRIMARY AROMATIC AMINES

MI_05_2014_FPM_FDC_Rev.2

Determination of the specific migration of primary aromatic amines performed in food simulants using LC-MS / MS. The quantification is performed by an external calibration in the same simulant.

SML: 0.002 mg/kg food

LoQ: 0.0004 mg/kg

5) SPECIFIC MIGRATION INTO SIMULANTS OF BA, CO, MN, ZN, CU, FE, LI, AL, NI, HG, CR, AS, PB, CD, SB (*)*MI_789800065_2020_rev0*

Determination of the specific migration of Ba, Co, Mn, Zn, Cu, Fe, Li, Al, Ni, Cd, Hg, Cr, As, Pb according to Reg. UE 10/2011 from the tested material into the simulants by ICP (Inductively Coupled Plasma) technique. The quantitative evaluation was carried out by external calibration of the elements in the same liquid simulants.

Ba - SML: 1 mg/kg; LOD: 0.02 mg/kg

Co - SML: 0.05 mg/kg; LOD: 0.02 mg/kg

Mn - SML: 0.6 mg/kg; LOD: 0.02 mg/kg

Li - SML: 0.6 mg/kg; LOD: 0.02 mg/kg

Zn - SML: 5 mg/kg; LOD: 1 mg/kg

Cu - SML: 5 mg/kg; LOD: 1 mg/kg

Fe - SML: 48 mg/kg; LOD: 1 mg/kg

Al - SML: 1 mg/kg; LOD: 0.5 mg/kg

Ni - SML: 0.02 mg/kg; LOD: 0.01 mg/kg

Specific migration of Hg, Cr, Pb, As, Cd, Sb according to Reg. (UE) 1245/2020, dated 2020 September 02nd.

Hg-SML: ND (0.01 mg/kg); LOD: 0.01 mg/kg

Cr-SML: ND (0.01 mg/kg); LOD: 0.01 mg/kg

Pb-SML: ND (0.01 mg/kg); LOD: 0.01 mg/kg

As-SML: ND (0.01 mg/kg); LOD: 0.01 mg/kg

Cd-SML: ND (0.002 mg/kg); LOD: 0.002 mg/kg

Sb- SML: 0.04 mg/kg; LOD: 0.02 mg/kg

6) SPECIFIC MIGRATION INTO SIMULANTS OF LA, EU, GD, TB (*)*MI_789800066_2020_Rev0*

Determination of the specific migration of La, Eu, Gd, Tb according to Reg. (UE) 1245/2020, dated 2020 September 02nd. from the tested material into the simulants by ICP (Inductively Coupled Plasma) technique. The quantitative evaluation was carried out by external calibration of the elements in the same liquid simulants.

La, Eu, Gd, Tb - SML: 0.05 mg/kg expressed as the sum of the metals; LOD: 0.01 mg/kg

7) SPECIFIC MIGRATION OF 1.4 BUTANEDIOL (CAS NR. 000110-63-4 - REF 13720)*MI_10_2018_FPM_FDC*

Determination of specific migration of 1.4 BUTANEDIOL (CAS Nr. 000110-63-4 - REF 13720) into the simulants by GC-MS analysis.

The quantitative evaluation was carried out by an external calibration of 1.4 BUTANEDIOL in the same liquid simulants.

LMS: 5 mg/kg

LR: 1 mg/kg

8) SPECIFIC MIGRATION OF TETRAHYDROFURAN (CAS NR. 000109-99-9 - REF 25150) (*)*MI_789200797_2015_Rev.0*

Determination of the specific migration of TETRAHYDROFURAN (CAS Nr. 000109-99-9 - REF 25150) from the tested material into the simulants by Head Space/Gas Chromatography/Mass Spectrometer analysis. The quantitative evaluation is carried out by external calibration of TETRAHYDROFURAN in the same liquid simulants. CEN TS 13130-26.

SML: 0,6 mg/kg.

LOD: 0,3 mg/kg

9) SPECIFIC MIGRATION OF ANTIOXIDANT P-EPQ (CAS 119345-01-6, REF 83595) (*)*MI_789200741_2015_Rev.0*

Determination of the specific migration of ANTIOXIDANT P-EPQ (CAS 119345-01-6, REF 83595) from the tested material into the simulant by GC/MS

SML: 18 mg/kg.

LoQ: 5 mg/kg

10) OLFACTORY ORGANOLEPTIC TEST ACCORDINGLY TO REGULATION (EC) 1935/2004 FOLLOWING UNI 10192:2000 (*)*UNI 10192*

The olfactory scoring test is a evaluation of the odor, measured with a 5 point scale. Each judge is asked to smell a series of coded dark flasks containing the samples. They are then asked to give a mark to each flask:

- 0: no perceivable smell
- 1: little perceivable smell, very difficult to define;
- 2: weak but identifiable smell;
- 3: strong smell;
- 4: very strong smell

The final result is expressed with the average value of the scores given by each judge, coupled with the standard deviation.

Testing conditions:

time of conditioning : 18 hours

temperature of conditioning : 55 ± 1 °Cquantity of sample: 1,5 dm²

volume of jar: 500 ml

n° judges : 6

A potential organoleptic impact is to be acknowledged to the sample if the average score plus one time the standard deviation is greater than or equal to 3.

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RESULT
1) DETERMINATION OF THE OVERALL MIGRATION

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B			
Contact condition: 1 hour at 100°C			
Measured unit: mg/dm²			
Measured value	Average value	Extended uncertainty	Limit value (according to Reg.EU10/2011)
1.7	2.4	0.6	10
3.2			
2.2			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Ethanol 20% - simulant C			
Contact condition: 1 hour at 100°C			
Measured unit: mg/dm²			
Measured value	Average value	Extended uncertainty	Limit value (according to Reg.EU10/2011)
3.5	3.2	0.8	10
3.2			
3.1			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: MPPO - simulant E			
Contact condition: 10 days at 40°C			
Measured unit: mg/dm²			
Measured value	Average value	Extended uncertainty	Limit value (according to Reg.EU10/2011)
<3	<3	--	10
<3			
<3			

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2) DETERMINATION OF THE COLOURING MIGRATION

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST		
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B		
Contact condition: 1 hour at 100°C		
Optical path: 10 cm		
Measured unit: T%		
measured value	Extended uncertainty ⁽¹⁾	limit value (according to DM 21/03/73)
98.2	0.5	≥95

⁽¹⁾for this variable the third paragraph of **DECLARATIONS** is not applicable

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST		
Food simulant: Ethanol 20% - simulant C		
Contact condition: 1 hour at 100°C		
Optical path: 10 cm		
Measured unit: T%		
measured value	Extended uncertainty ⁽¹⁾	limit value (according to DM 21/03/73)
95.7	0.5	≥95

⁽¹⁾for this variable the third paragraph of **DECLARATIONS** is not applicable

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3) SPECIFIC MIGRATION OF PRIMARY AROMATIC AMINES

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST		
Simulant: Acetic acid in aqueous solution 3% w/v - simulant B		
Contact condition: 5 min. at 100° C		
COMPOUND	mg/kg	SML (mg/kg) (Reg. EU 10/2011)
2,4,5-Trimethylaniline (2,4,5 TMA CAS 137-17-7)	< 0.0004	0.002
2-Methoxy-5-methylaniline (2-M-5-MA CAS 120-71-8)	< 0.0004	0.002
2-Naphthylamine (2-ANP CAS 91-59-8)	< 0.0004	0.002
3,3'-Dimethylbenzidine (3,3 DMB CAS 119-93-7)	< 0.0004	0.002
4,4'-Diaminodiphenylether (4,4-DPE CAS 101-80-4)	< 0.0004	0.002
4,4'-Methylenebis[2-chloroaniline] (CL-MDA CAS 101-14-4)	< 0.0004	0.002
4,4'-Methylenedianiline (4,4 MDA CAS 101-77-9)	< 0.0004	0.002
4,4'-Methylenedi-o-toluidine (4,4 MDOT CAS 838-88-0)	< 0.0004	0.002
4,4'Thioaniline (4,4-thioANL CAS 139-65-1)	< 0.0004	0.002
4-Aminobiphenyl (4-ABP CAS 92-67-1)	< 0.0004	0.002
4-chloro-Aniline (4-CA CAS 106-47-8)	< 0.0004	0.002
4-Chloro-o-toluidine (4-CoT CAS 95-69-2)	< 0.0004	0.002
5-Nitro-o-Toluidine (5-N-oT CAS 99-55-8)	< 0.0004	0.002
Benzidine (BNZ CAS 92-87-5)	< 0.0004	0.002
o-Anisidine (o-ASD CAS 90-04-0)	< 0.0004	0.002
o-Dianisidine (o-diASD CAS 119-90-4)	< 0.0004	0.002
o-Toluidine (o-TOL CAS 95-53-4)	< 0.0004	0.002
p-Aminoazobenzene (AAB CAS 60-09-3)	< 0.0004	0.002
2,4/2,6-Toluenediamine (2,4-2,6-TDA CAS 823-40-5 CAS 95-80-7)	< 0.0008	0.002
o-Aminoazotoluene (CAS 97-56-3) *	< 0.0004	0.002
4-methoxybenzene-1,3-diamine (CAS 615-05-4) *	< 0.0004	0.002
3,3-Dichlorobenzidine (CAS 91-94-1) *	< 0.0004	0.002

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4) SPECIFIC MIGRATION INTO SIMULANTS OF BA, CO, MN, ZN, CU, FE, LI, AL, NI, HG, CR, AS, PB, CD, SB (*)

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
Metals	Average value	Extended uncertainty	Limit value (according to Reg.EU 10/2011)
Ba	< 0.02	-	1
Co	< 0.02	-	0.05
Mn	< 0.02	-	0.6
Zn	< 1	-	5
Cu	< 1	-	5
Fe	< 1	-	48
Li	< 0.02	-	0.6
Al	< 0.5	-	1
Ni	< 0.01	-	0.02
Sb	< 0.02	-	0.04
Hg	< 0.01	-	ND ²
As	< 0.01	-	ND ²
Cr	< 0.01	-	ND ²
Pb	< 0.01	-	ND ²
Cd	< 0.002	-	ND (LOD 0.002) ²
Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Ethanol 20% - simulant C			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
Metals	Average value	Extended uncertainty	Limit value (according to Reg.EU 10/2011)
Ba	< 0.02	-	1
Co	< 0.02	-	0.05
Mn	< 0.02	-	0.6
Zn	< 1	-	5
Cu	< 1	-	5
Fe	< 1	-	48
Li	< 0.02	-	0.6
Al	< 0.5	-	1
Ni	< 0.01	-	0.02
Sb	< 0.02	-	0.04
Hg	< 0.01	-	ND ²
As	< 0.01	-	ND ²
Cr	< 0.01	-	ND ²
Pb	< 0.01	-	ND ²
Cd	< 0.002	-	ND (LOD 0.002) ²

² According to Reg. (UE) 1245/2020, dated 2020 September 02nd, the specific migration limits will entry in force from 23 September 2022.

5) SPECIFIC MIGRATION INTO SIMULANTS OF LA, EU, GD, TB (*)

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
Metals	Average value	Extended uncertainty	Limit value (according to Reg.UE 1245/2020)
La	< 0.01	-	0.05 expressed as the sum ²
Eu	< 0.01	-	
Gd	< 0.01	-	
Tb	< 0.01	-	

² according to Reg. (UE) 1245/2020, dated 2020 September 02nd, the specific migration limits will entry in force from 23 September 2022.

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Ethanol 20% - simulant C			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
Metals	Average value	Extended uncertainty	Limit value (according to Reg.UE 1245/2020)
La	< 0.01	-	0.05 expressed as the sum ²
Eu	< 0.01	-	
Gd	< 0.01	-	
Tb	< 0.01	-	

² according to Reg. (UE) 1245/2020, dated 2020 September 02nd, the specific migration limits will entry in force from 23 September 2022.

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6) SPECIFIC MIGRATION OF 1.4 BUTANEDIOL (CAS NR. 000110-63-4 - REF 13720)

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<1	<1	--	5
<1			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Ethanol 20% - simulant C			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
1.1	1.1	0.4	5
1.2			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: MPPO - simulant E			
Contact condition: 10 days at 60°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
1.0	1.2	0.4	5
1.4			

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7) SPECIFIC MIGRATION OF TETRAHYDROFURAN (CAS NR. 000109-99-9 - REF 25150) (*)

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<0.3	<0.3	--	0.6
<0.3			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Ethanol 20% - simulant C			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<0.3	<0.3	--	0.6
<0.3			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: MPPO - simulant E			
Contact condition: 10 days at 60°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<0.3	<0.3	--	0.6
<0.3			

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8) SPECIFIC MIGRATION OF ANTIOXIDANT P-EPQ (CAS 119345-01-6, REF 83595) (*)

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Acetic acid in aqueous solution 3% w/v - simulant B			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<5	<5	--	18
<5			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: Ethanol 20% - simulant C			
Contact condition: 5 min. at 100° C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<5	<5	--	18
<5			

Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST			
Food simulant: MPPO - simulant E			
Contact condition: 10 days at 60°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.EU 10/2011)
<5	<5	--	18
<5			

9) OLFACTORY ORGANOLEPTIC TEST ACCORDINGLY TO REGULATION (EC) 1935/2004 FOLLOWING UNI 10192:2000 (*)

SAMPLE	MEDIAN VALUE	STANDARD DEVIATION
Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST	1.1	0.7

Opinions and interpretations - not object of ACCREDIA accreditation.

CONCLUSIONS

In the chosen test condition the sample **Code 1004 - Capsul for Coffee, Infusions and Solubles - BIOCOMPOST** is suitable to be used in contact with foodstuffs for which simulants A, B, C and E are used.

With reference to specific migrations, the compliance computations have been arranged considering the real volume/capacity of the sample (1 object with 2 g or 20 ml).

The sample tested by this Laboratory are therefore suitable to come in contact with foodstuff mentioned above on condition that they have been produced employing the monomers, additives and technical support agents according to in force legislation, specific migrations are respected and they do not induce any organoleptic modification on foodstuff.

DATA
Date

Operating Sector Food Packaging
Materials

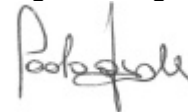
BA Product Conformity Assessment

23/11/2020

Alberto Taffurelli



Ing. P. Fumagalli



The document is digitally signed in accordance with Legislative Decree n. 82/2005 as amended and replaces the paper document and the handwritten signature.