

DIVISIONE: **FOOD PACKAGING MATERIALS** LABORATORIO: **FOOD CONTACTS**
 DIVISION: **FOOD PACKAGING MATERIALS** LABORATORY:

RAPPORTO DI PROVA <i>(Test Report)</i>		Pag. 1 di/of
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N°	0908\FPM\FDC\15	Data: 21/09/2015 Date:

 IDENTIFICAZIONE E DESCRIZIONE DEL CAMPIONE:
 SPECIMEN DESCRIPTION:

Capway SpareParts BV

 DATI IDENTIFICATIVI DEL CLIENTE:
 CLIENT:

Everbake Capway B.V.
De Aar 1
8253 Dronten (EE)

 NORMA DI RIFERIMENTO:
 REFERENCE STANDARD:

 D.P.R. 777 dated 23/08/1982, D.L. 108 dated 25/01/1992, D.M.34 dated 21/3/73
 European Directives: 82/711/EEC GUCEE L 297 dated 23/10/82, 85/572/EEC GUCEE L 372 dated 31/12/1985, 93/8/EEC GU L90 dated 14/04/1993, 97/48/EC GUCE L 222 dated 12/8/97. 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 del 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)

DISTRIBUZIONE ESTERNA: OUTSIDE DISTRIBUTION: <p style="text-align: center;">Everbake Capway B.V.</p>	DISTRIBUZIONE INTERNA: INSIDE DISTRIBUTION: <p style="text-align: center;">Copy to Division Head</p>
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 ENTE DI ACCREDITAMENTO:
 ACCREDITATION BODY:

Mod.37 - Rev.8 - Società a Scio Unico soggetto ad attività di direzione e coordinamento di IMQ spa



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GENERALITIES

- Sample receiving date: 14/07/2015
- Analysis start date: 14/07/2015
- Analysis end date: 31/07/2015
- Deviation from test methods: NO

SAMPLE DESCRIPTION

Capway SpareParts BV

SAMPLING

The initial sampling has been done by the customer.
The sampling for the test has been done drawing casually part of the sample in our possession.

DECLARATION

The test results of the present report are related exclusively to the tested sample.
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.



PERFORMED DETERMINATIONS

SPECIFIC MIGRATION IN MPPO: PREPARATION OF CONTACT MPPO, SIMULANT AND, AS REG.10 / 2011

MI_789300741_2015_Rev.0

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

Food simulant	Contact condition
MPPO	10 minutes at 100°C followed by 24 hours at 40°C

Exposed sample surface (dmq): 0.125
Simulant volume (g) : 0.5

1) SPECIFIC MIGRATION OF BA, CO, MN, ZN, CU, FE, LI

MI_789300742_2015_Rev.0

Determination of the specific migration of Ba, Co, Mn, Zn, Cu, Fe, Li according to Reg. EU 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: 25 mg/kg; LOD: 1 mg/kg

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

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

2) QUANTITATIVE DETERMINATION OF PRIMARY AROMATIC AMINES: METHOD L.00.00-6 (LMBG § 35)

METODO L.00.00-6 (LMBG § 35)

The procedure used to quantify the primary aromatic amines was a spectrophotometer method, based on the colour complex formed by a diazotization and a coupling reaction. The solution was further concentrated and eluted on a solid phase column. The final solution was photometrically detected at 550 nm (Method Amtliche Sammiung von Untersuchungsverfahren method L.00.00-6 LMBG § 35, del 1995 agg. 2002)

An external calibration curve detected at 550 nm was used to quantify the primary aromatic amines. An aniline standard solution 0, 0.5, 1.0, 1.5, 2.0, 3.0, 4.0, 6.0 g in acetic acid 3% was detected.

LOD: 0.2 µg /100 ml or LOD: 0.002 mg/kg or LOD: 0.0003 mg/dmq (the limit is originally expressed in mg/kg it is possible to convert the measure unit by dividend for the factor 6 to express them in mg/dmq.)

3) SPECIFIC MIGRATION OF BISPHENOL A (CAS 80-05-7)

MI_06_2014_FPM_FDC_Rev.0

Determination of the specific migration of Bisphenol A (CAS 80-05-7) into the simulants by LC MS MS

LMS: 0.6 mg/kg
LoQ: 0.1 mg/kg

4) SPECIFIC MIGRATION OF BISPHENOL A DIGLYCIDYL ETHER (BADGE)

MI_789200684_2015_Rev.0

Determination of the specific migration of Bisphenol A Diglycidyl Ether- BADGE- in the simulants through HPLC analysis.

The quantification is carried out by external calibration of BADGE in the same liquid simulants.

Analysis LC-MS, FLD detectors:

Column Water Atlantis C18 RP 150X4.6mmX5UM

Mobile phase: water(A) and acetonitrile (B).

Column Temperature: 30°C.

Detector FLD : Ex=225nm; Em=305nm

SML_{BADGE}: 1 mg/kg

LOD: 0.5 mg/kg

5) DETERMINATION OF THE CONTENT OF BFDGE E NOGE

MI_789200357_2015_Rev.0

Determination of the content of BFDGE e NOGE with analysis by HPLC. The quantitative evaluation was carried out by external calibration of BFDGE e NOGE in the same matrix.

QM: absent (< LOD)

LOD in analysis: 0.010mg/kg



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6) DETERMINATION OF THE CONTENT OF EPICHLOROHYDRIN

MI_789200184_2015_Rev.0

Determination of the content of epichlorohydrin (CAS 106-89-8) carried out by HS/GC-MS.

QM : 1 mg/kg in the FP

LOD : 0.5 mg/kg

7) SPECIFIC MIGRATION OF ACID ACRILIC AND ITS ESTERS

MI_789200646_2015_Rev.0

Determination of the specific migration of ACID ACRILIC (CAS 000079-10-7) and its Esters, from the tested material into the simulants by LC-MS analysis and HS/GCMS Spectrometer analysis.

The quantitative evaluation is carried out by an external calibration of ACID ACRILIC and its esters in the same liquid simulants.

SML (T): 6 mg/kg

LOD: 1 mg/kg

8) SPECIFIC MIGRATION OF 2-METHYLIMIDAZOLE (CAS 693-98-1)

MI_789200816_2015_Rev.0

Determination of the specific migration of 2-Methylimidazole (CAS 693-98-1) into the simulants by TD/ GC MS

LMS: 0.01 mg/kg DFI Order on materials and objects in the November 23, 2005 (RS 817.023.21)

LoQ: 0.01 mg/kg

RESULTS

1) SPECIFIC MIGRATION OF BA, CO, MN, ZN, CU, FE, LI

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°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	-	25
Cu	< 1	-	5
Fe	< 1	-	48
Li	< 0.02	-	0.6

2) QUANTITATIVE DETERMINATION OF PRIMARY AROMATIC AMINES: METHOD L.00.00-6 (LMBG § 35)

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°C			
Measured unit: mg/Kg			
measured value	average value	standard deviation	limit value (according to 10/2011)
< 0.002	< 0.002	--	0.010 mg/kg
< 0.002			

3) SPECIFIC MIGRATION OF BISPHENOL A (CAS 80-05-7)

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.10/2011)
<0.1	<0.1	--	0.6
<0.1			

4) SPECIFIC MIGRATION OF BISPHENOL A DIGLYCIDYL ETHER (BADGE)

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg. 1895/2005)
< 0.5	< 0.5	--	1
< 0.5			

5) DETERMINATION OF THE CONTENT OF BFDGE E NOGE

Capway SpareParts BV		
Measured unit: mg/dm²		
COMPOUND	Measured value	Limit value (according to Reg. 1895/2005)
BFDGE	Absent ¹	Absent ¹
NOGE	Absent ¹	

¹ Absent = < LOD

6) DETERMINATION OF THE CONTENT OF EPICHLOROHYDRIN

Capway SpareParts BV			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (according to Reg.10/2011)
< 0.5	< 0.5	--	1
< 0.5			

7) SPECIFIC MIGRATION OF ACID ACRILIC AND ITS ESTERS
ACID ACRILIC

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (T) (according to Reg.10/2011)
<1	<1	---	6
<1			
<1			

ESTERS

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (T) (according to Reg.10/2011)
<1	<1	---	6
<1			
<1			



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8) SPECIFIC MIGRATION OF 2-METHYLIMIDAZOLE (CAS 693-98-1)

Capway SpareParts BV			
Food simulant: MPPO			
Contact condition: 10 minutes at 100°C followed by 24 hours at 40°C			
Measured unit: mg/kg			
measured value	average value	Extended uncertainty	SML (DFI Order on materials and objects in the November 23, 2005 (RS 817.023.21))
<0.01	<0.01	--	0.01
<0.01			

CONCLUSIONS

In the chosen test condition the sample **Capway SpareParts BV** is suitable to be used in contact with dry foodstuffs for which simulants E is used.

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.

Date
21/09/2015

Division Head
Alberto Taffurelli

Managing Director
Raoul Gatti