

Pacovis AG
Frau Jenny Zugaj
Grabenmattenstr. 19
5608 Stetten

Report 2014L43844

Date of report	10/12/2014
Your reference	Order of 06.10.2014
Type of order	General tests
Client	Pacovis AG, Frau Jenny Zugaj
Sample	1
Designation	Palmblatt / palm leaf
Amount	48 Plates
Identification	none
Sender	Pacovis AG
Received on	13/10/2014
Packing	bag

Assessment

Chemical Analysis

The overall migration was performed according to Commission Regulation (EU) No 10/2011 and customer instructions. For this, the food contact side of the sample material was exposed to Tenax (MPPO) for 3 d at 40°C plus 0.5 h at 220°C and to water for 2 h at 80°C (hot water extraction acc. to EN 647 for the specific migration). The overall migration was performed according to EN 14338 and EN 1186.

Additionally, the water migration solution was analysed for formaldehyde and the elements lead, cadmium, chromium and mercury.

For sensory evaluation, butter cookies were exposed to the sample for 3 d at 40°C plus 0.5 h at 120°C according to DIN 10955. As a blank, butter cookies were used.

The samples were also analysed for their total microbial count.

The sample material was analysed for pesticides.

GC-MS-Screening

After concentrating the Tenax migration solution (factor 10), a mix of internal standards was added (IS 1: 10 ppb D4-DBP; IS 2: 100 ppb D4-BBP and IS 3: 100 ppb D4-DnNP) and the migration solution was analysed using the GC-TOF-MS/FID screening procedure for ingredients and contaminants. The detected migrants were compared with the MS database NIST and calculated with the 100 ppb internal standards.

Results

Under the prescribed testing conditions, the overall migration values obtained with the tested simulant are below the limit of 10 ± 3 mg/dm² according to the Commission Regulation (EU) No 10/2011 and the Swiss Regulation on Food Contact Materials.

Formaldehyde is in compliance with the EU and Swiss regulations.
The analysed elements are below the quantification limit.

The sensory evaluation showed that the sample did perceptibly influence odour (grade 0.5), and taste (grade 1.0).
The grading is based on a scale from 0 to 4. Values ≥3 are considered not marketable.

0 = no perceptible odour or taste difference, 1 = just perceptible odour or taste difference, 2 = moderate odour or taste difference, 3 = strong odour or taste difference, 4 = very strong odour or taste difference

nn: not detectable
nb: not quantifiable

LOD: limit of detection
LOQ: limit of quantification

na: not in the accredited range

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STS 038



The total microbial count was found non-suspicious. The samples are not contaminated.

No pesticide residues tested in our investigation programme were found in the sample.

GC-MS-Screening

After subtracting the blank, no critical substances of significant concentration > 10 ppb (= 0.01 mg/kg food) were detected by GC-MS.

The specific migration value [mg substance / kg food] was calculated assuming a cubic packaging with an area of 6 dm² that is in contact with 1 kg of food. For any other surface-area-to-volume ratio, the resulting specific migration value is different. The value for the actual packaging should be calculated by the producer.

Assessment

Based on the submitted documents, our assumptions and the analytics described above, the present product used as intended fulfils the requirements of the Commission Regulation (EU) No 10/2011 and the Regulation (EC) No 1935/2004 article 3. The product also complies with the requirements of the Swiss Regulation on Food Contact Materials.

This report exclusively refers to the analysed sample and submitted documents. It is valid at longest 3 years (until December 2017). In case of any change in the product (composition, raw materials, processing conditions), legal regulations or toxicological assessment, this evaluation becomes invalid.

References

- EN 14338 Paper and board intended to come into contact with foodstuffs - Conditions for determination of migration from paper and board using modified polyphenylene oxide (MPPO) as a simulant, March 2004
- EN 1186 Materials and articles in contact with foodstuffs - Plastics, May 2002
- Swiss Regulation on Food Contact Materials SR 817.023.21 (Bedarfsgegenstände VO) of 23.11.05, updated 01.04.2013
- Commission Regulation (EU) No 10/2011 of 14.01.2011, as amended by No 321/2011 (01.04. 2011), No 1282/2011 (28.11.2011), No 1183/2012 (30.11.2012) and No 202/2014 (03.03.2014)
- DIN 10955 Sensory evaluation (Sensorische Prüfungen - Prüfung von Packstoffen und Packmitteln für Lebensmittel), 2004
- DGCCRF INFORMATION NOTICE 2004 / 64 ON MATERIALS IN CONTACT WITH FOODSTUFFS
- FIV: Swiss Regulation on Contaminants of 26.06.1995, issue 01.01.2014
- Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC in the current version
- Regulation (EC) No 1935/2004 of 27.10.2004

Test results	Sample 1	Palmblatt / palm leaf		
start microbiology		12/11/2014		
Parameter		Result	Units	
Method				
Aerobic, mesophilic bacteria		9	CFU/25cm ²	
CMBMET20				
Escherichia coli		not detectable	CFU/25cm ²	
CMBMET22				
Salmonellae		not detectable	CFU/25cm ²	
CMBMET10				
Parameter		Result	Units	Indic. Value
Method				limit of quant.
Migration (test conditions)		3d/40°C, 0.5h/220°C		
LMPMET0705				
Migr. Tenax		1	mg/dm ²	10
LMPMET0705				LOQ: 1
Migration (test conditions)		butter cookies:		
LMPMET0705		3d/40°C, 0.5h/120°C		
Sensory assessment (smell,taste)		0.5/1.0		
LMPMET0707(na)				
Migration (test conditions)		water: 2h/80°C (EN		
LMPMET0705		647)		
Referring to		water		
-				

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Parameter Method	Result Units	Indic. Value	limit of quant.
Formaldehyde LMPMET0730	0.29 mg/dm²		LOQ: 0.1
CAS 50-00-0			
Formaldehyde LMPMET0730	1.8 mg/kg food	15	LOQ: 0.6
CAS 50-00-0			

Parameter Method	Result Units	Indic. Value	limit of quant.
Referring to	water		
-			
Lead LMPMET091 (ICP-MS)	<0.05 mg/kg	3	LOQ: 0.05
Cadmium LMPMET091 (ICP-MS)	<0.05 mg/kg	0.5	LOQ: 0.05
Chromium LMPMET091 (ICP-MS)	<0.2 mg/kg	0.3	LOQ: 0.2
Mercury LMPMET091 (ICP-MS)	<0.2 mg/kg	0.25	LOQ: 0.2

Parameter Method	Result Units	limit of quant.
Referring to	direct analysis	
-		
LC-Pesticides (polar pesticides) LSPMET10d LCPest (LC-MS/MS)	not detectable mg/kg	LOD: 0.01 - 0.025 LOQ: 0.02 - 0.05
GC-Pesticides (non-polar pesticides) LSPMET05d GCPest (GC-MS/MS)	not detectable	
A1: Organo-chlorinated insecticides LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.01 - 0.1 LOQ: 0.025 - 0.15
A2: Phosphoric acid esters LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
A3: Carbamates LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
A4: Pyrethroids LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 1 LOQ: 0.05 - 1.5
A5: Insecticides various LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
B3: Phthalimides LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
B4: Benzene derivatives LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
B6: Phenylamides LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
B7: Triazoles&Imidazoles LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
B8: Dicarboximides LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
B9: Fungicides various LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15

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Parameter Method	Result Units	limit of quant.
B10: Strobilurins (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
C2: Triazines LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
C3: Growth regulator LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
C8: Herbicides various LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
D2: Anti Scald Pesticides LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
D3: Plant Growth Regulator LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15
D4: Diverse Biozide LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 LOQ: 0.05
S1: Synergist LSPMET05d GCPest (GC-MS/MS)	not detectable mg/kg	LOD: 0.025 - 0.1 LOQ: 0.05 - 0.15

Report released by: Dr. Thomas Gude, Technical Manager

For further inquiries you can also contact your customer consultant:

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