



**INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.**

třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic

**TESTING LABORATORY - TESTING DIVISION**

issues

**ATTEST**

**No. 472118713-01**

On sample:

**LW paper and bags from LW paper with printing**

Client:

**Balsac papermill s.r.o.,**

**Lukavice 21, 789 01 Zábřeh, Czech Republic, ID: 01610368**

**Evaluation of the measured parameters:**

The evaluated parameters mentioned on the pages 3 – 7 of the Attest meet hygienic requirements for the **products made of paper** given by Health Ministry Decree No. 38/2001 Coll., “*Hygienic requirements for materials intended to come into contact with foodstuffs*”, as amended and German Recommendation BfR (Bundesinstitut für Risikobewertung - Federal Institute for Risk Assessment) XXXVI Paper and cardboard for food contact.

The evaluated sample does not cause a deterioration in organoleptic characteristics of food.

The evaluated sample meets requirements of the article 3 of Regulation (EC) No. 1935/2004 of the European Parliament and of the Council on materials and articles intended to come into contact with food.

This Attest was issued on the basis of the accredited test report Ref. No. 472118713-01 issued on April 29, 2025.

**Issued on:** April 29, 2025

**Valid till:** April 30, 2028



**Dipl. Ing. Jiří Samsonek, Ph.D.**  
Head of the testing laboratory

**Conditions for use of the Attest and associated information:**

1. The Attest applies only to the sample tested by our laboratory.
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**ATTEST**  
**No. 472118713-01**  
**LW paper and bags from LW paper with printing**  
**Submitted sample:**



**Fig. No. 1: Bags from LW paper with printing**



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**ATTEST**  
**No. 472118713-01**  
Values obtained

**Assessment of organoleptic properties**

Food simulant		ČSN EN 1230-2 biscuits	ČSN EN 1230-1 without food simulant
Assessor No.	Unit	Flavour	Odour
1	level	0	1
2	level	0	0
3	level	0	1
4	level	0	0
5	level	0	1
6	level	0	1
<b>Mean</b>	<b>level</b>	<b>0</b>	<b>0.5</b>

Off-odour and off-taste scale:

0 = No perceptible off-odour or off-taste

1 = Just perceptible off-odour or off-taste (off-odour and off-taste determination is very difficult)

2 = Slightly perceptible off-odour or off-taste

3 = Clearly perceptible off-odour or off-taste

4 = Strong off-odour or off-taste

According to Regulation (EC) No. 1935/2004 of the European Parliament and of the Council the articles shall not cause deterioration in the organoleptic characteristics of food.



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**Test results according to the requirements of Suppl. No. 12 to Decree No. 38/2001 Coll.**

Parameter	Unit	Value obtained <sup>1)</sup>	Limit <sup>2)</sup>
<b>Assessment of the paper material</b>			
Moisture	% w/w	5.13±0.28	max. 8.0
PCB <sup>3)</sup>	mg/kg of dry matter	< 0.12	max. 2.0
Polychlorinated phenols <sup>4)</sup>	mg/kg of dry matter	< 0.05	max. 0.05
PAH <sup>5)</sup>	mg/kg of dry matter	< 0.01	max. 0.05
<b>Content of the substances in the leachate (20 dm<sup>2</sup> / 1000 ml of distilled water, 20 °C / 24 h)</b>			
Formaldehyde	mg of CH <sub>2</sub> O/ dm <sup>2</sup>	< 0.02	max. 0.10 max. 1.0 <sup>7)</sup>
Total nitrogen	mg of N / dm <sup>2</sup>	0.07±0.02	max. 0.2
Phthalates <sup>6)</sup>	mg/dm <sup>2</sup>	< 0.02	max. 0.20
Primary aromatic amines	mg /dm <sup>2</sup>	- <sup>8)</sup>	max. 0.002
Phenolic compound	mg of phenol /dm <sup>2</sup>	< 0.01	max. 0.05
Fluorescence (365 nm)	-	- <sup>8)</sup>	No fluorescence
Mercury	mg/kg of dry matter	< 0.05	max. 0.3
Cadmium	mg/kg of dry matter	< 0.05	max. 0.5
Chromium	mg/kg of dry matter	< 0.05	max. 0.1
Lead	mg/kg of dry matter	< 0.05	max. 3.0
Arsenic	mg/kg of dry matter	< 0.05	max. 3.0

### Notes to the table:

- 1) Symbol „<” means less than limit of detection of the analytical method. The test results are expressed including the reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%
- 2) Limit values according to the Ministry of Health Decree No. 38/2001 Coll., as amended
- 3) PCB – polychlorinated biphenyls, sum of congeners 28, 52, 101, 118, 138, 153 and 180
- 4) Polychlorinated phenols expressed as pentachlorophenol
- 5) PAH - polycyclic aromatic hydrocarbons; sum of: benzo/b/fluoranthene, benzo/k/fluoranthene, benzo/a/pyrene, dibenzo/a,h/anthracene, benzo/g,h,i/perylene, indeno/1,2,3-c,d/pyrene expressed as benzo/a/pyrene
- 6) Sum of dibutyl phthalate (DBP), di-(2-ethylhexyl) phthalate (DEHP), diisodecyl phthalate (DIDP), benzylbutyl phthalate (BBP), diisononyl phthalate (DINP), di-n-octyl phthalate (DNOP)
- 7) Limit value according to German Recommendation BfR XXXVI Paper and cardboard for contact with foodstuffs.
- 8) The alternative test was performed – see the tables on the pages 6 and 7



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## ATTEST No. 472118713-01

### Test results according to the requirements of German Recommendation BfR XXXVI

#### Determination of metals in the leachate (acc. to ČSN EN 645)

Parameter	Unit	Test result <sup>1)</sup>	Limit <sup>2)</sup>
Cd - Cadmium	mg/l of extract	< 0.005	max. 0.005
Cr – Chromium total	mg/l of extract	< 0.001	-
Cr <sup>VI</sup> – Chromium hexavalent	mg/l of extract	< 0.001 <sup>3)</sup>	not-detectable
Pb - Lead	mg/l of extract	< 0.005	max. 0.01
Al - Aluminium	mg/l of extract	< 0.20	max. 1.0

#### Notes to the tables:

- 1) Symbol „<“ means less than LOQ (limit of quantification) of the analytical method.
- 2) Limit value according to BfR XXXVI Paper and cardboard for contact with foodstuffs
- 3) Content of hexavalent chromium was calculated from the test result value for total chromium

#### Overall migration determination

Food simulant	Unit	Test result <sup>1)</sup>		Analytical tolerance <sup>2)</sup>	Limit <sup>3)</sup>
		Single results	Average		
MPPO <sup>4)</sup> , (40±2) °C/10 days	mg/dm <sup>2</sup>	<2.0; <2.0; <2.0	<2.0	3	max. 10

#### Notes to the tables:

- 1) Symbol „<“ means less than LOQ (limit of quantification) of the analytical method.
- 2) Analytical tolerance according to ČSN EN 1186-1, article 12.3
- 3) Limit values according to Commission Regulation (EU) No 10/2011, as amended
- 4) Modified polyphenyleneoxide

#### Determination of glyoxal according to DIN 54603 in the leachate (acc. to ČSN EN 645)

Parameter	Unit	Value obtained <sup>1)</sup>	Uncertainty	Limit <sup>2)</sup>
Glyoxal content	mg/dm <sup>2</sup>	< 0.002 <sup>3)</sup>	-	max. 1.5
	mg/kg of dry matter	< 4.5	-	-

#### Notes to the table:

- 1) Symbol „<“ means less than LOQ (limit of quantification) of the analytical method.
- 2) Limit value according to BfR XXXVI Paper and cardboard for contact with foodstuffs
- 3) For an area weight of the sample of 35.5 g/m<sup>2</sup>

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# ATTEST

## No. 472118713-01

### Determination of primary aromatic amines (PAAs) in leachate

leachate: distilled water, 23 °C / 24 h; 10 g / 250 ml

Primary aromatic amine (PAA)	CAS No.	Unit <sup>1)</sup>	Test result <sup>2)</sup>	Limit <sup>3)</sup>
<b>PAAs classified as carcinogens in classes 1A and 1B of the CLP Regulation (EC) 1272/2008</b>				
4-Aminobiphenyle	92-67-1	mg/kg	< 0.002	N.D.
Benzidine	92-87-5	mg/kg	< 0.002	N.D.
4-Chloro-o-toluidine	95-69-2	mg/kg	< 0.002	N.D.
2-Naphthylamine	91-59-8	mg/kg	< 0.002	N.D.
o-Aminoazotoluene	97-56-3	mg/kg	< 0.002	N.D.
p-Chloroaniline	106-47-8	mg/kg	< 0.002	N.D.
2,4-Diaminoanisole	615-05-4	mg/kg	< 0.002	N.D.
4,4'-Diaminodiphenylmethane	101-77-9	mg/kg	< 0.002	N.D.
3,3'-Dichlorobenzidine	91-94-1	mg/kg	< 0.002	N.D.
3,3'-Dimethoxybenzidine	119-90-4	mg/kg	< 0.002	N.D.
3,3'-Dimethylbenzidine	119-93-7	mg/kg	< 0.002	N.D.
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	mg/kg	< 0.002	N.D.
p-Cresidine	120-71-8	mg/kg	< 0.002	N.D.
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	mg/kg	< 0.002	N.D.
4,4'-Oxydianiline	101-80-4	mg/kg	< 0.002	N.D.
4,4'-Thiodianiline	139-65-1	mg/kg	< 0.002	N.D.
o-Toluidine	95-53-4	mg/kg	< 0.002	N.D.
2,4-Toluenediamine	95-80-7	mg/kg	< 0.002	N.D.
2,4,5-Trimethylaniline	137-17-7	mg/kg	< 0.002	N.D.
o-Anisidine	90-04-0	mg/kg	< 0.002	N.D.
p-Aminoazobenzene	60-09-3	mg/kg	< 0.002	N.D.
Screening for others	<sup>4)</sup>	-	No PAA detected <sup>5)</sup>	-
Sum of detected PAAs	-	mg/kg	-	max. 0.01

#### Notes to the table:

- 1) Expressed as mg of the substance per kg of food simulant
- 2) Symbol „<“ means less than limit of detection of the analytical method
- 3) Limit values according to Commission Regulation EU 10/2011 as amended
- 4) These PAAs were screened – CAS No. 95-68-1, CAS No. 87-62-7, CAS No. 2243-62-1, CAS No. 62-53-3, CAS No. 95-51-2, CAS No. 108-42-9, CAS No. 106-49-0, CAS No. 106-50-3, CAS No. 823-40-5, CAS No. 121-69-7, CAS No. 6582-52-1, CAS No. 1208-52-2, CAS No. 6358-64-1, CAS No. 95-82-9, CAS No. 94-70-2, CAS No. 2835-68-9, CAS No. 81-16-3, CAS No. 88-44-8, CAS No. 49564-57-0, CAS No. 95-23-8, CAS No. 132-32-1, CAS No. 95-54-5, CAS No. 67014-36-2, CAS No. 156-43-4, CAS No. 90-41-5, CAS No. 99-55-8
- 5) LOD (limit of detection) of individual PAA is 0,005 mg/kg  
N.D. = not detectable; limit of detection 0,002 mg/kg

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## ATTEST No. 472118713-01

### Determination of fastness of fluorescent whitened paper according to ČSN EN 648 procedure A – long-term contact

Simulant	Unit	Value obtained <sup>1)</sup>
Distilled water	level	5
3% acetic acid	level	5
Alkaline salt solution (pH 8.6)	level	5
Olive oil	level	5
Limit <sup>2)</sup>	level	Min. 5

**Notes to the table:**

- <sup>1)</sup> 5 level correspond to the zero content of fluorescent brighteners that migrate into filter paper = good fastness
- <sup>2)</sup> Limit value according to BfR XXXVI Paper and cardboard for contact with foodstuffs

### Determination of fastness according to ČSN EN 646 – colour migration procedure A – long-term contact

Simulant	Unit	Value obtained <sup>1)</sup>
Distilled water	level	5
3% acetic acid	level	5
Alkaline salt solution (pH 8.6)	level	5
Olive oil	level	5
Limit <sup>2)</sup>	level	Min. 5

**Notes to the table:**

- <sup>1)</sup> 5 level correspond to the zero colorants migration into filter paper = good fastness
- <sup>2)</sup> Limit value according to BfR XXXVI Paper and cardboard for contact with foodstuffs

### Test results of the transfer of antimicrobial constituents according to ČSN EN 1104

Parametr	Unit	Test result	Limit <sup>1)</sup>
Bacillus subtilis (BGA) spore suspension	size zone	the absence of inhibition zone <sup>2)</sup> (9 pcs of test samples)	the absence of inhibition zone
Test microorganisms Aspergillus niger	size zone	the absence of inhibition zone <sup>2)</sup> (9 pcs of test samples)	the absence of inhibition zone

**Notes to the table:**

- <sup>1)</sup> limit value according to BfR XXXVI Paper and cardboard for contact with foodstuffs
- <sup>2)</sup> test pieces presenting an absence of inhibition zone are considered to be free of water-soluble antimicrobial constituents

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třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic  
**Testing Laboratory - D2**

Attest No. 472118713-01

**Sample description and identification:**

ITC's number	Sample identification by client	Description of submitted sample
18713/1	Bags from LW paper with printing	Paper bags with printing – see the figure No. 1 on the page 2 of this attest

**Work requested:**

1. Evaluation of hygienic properties of the sample according to Decree of Health Ministry No. 38/2001 Coll. *for articles intended into a contact with foodstuffs*, as amended, in compliance with Law of Czech Republic No. 258/2000 Coll. *about protection of the public health*, as amended
2. Evaluation of the selected hygienic properties of the sample according to German Recommendation BfR XXXVI *Paper and cardboard for foodstuffs*.

The evaluation of hygienic properties of the sample is based on European legislation in the sense of Regulation (EC) No. 1935/2004 of the European Parliament and of the Council *on materials and articles intended to come into contact with food*.

**Opinions and interpretations:**

The evaluated products “**LW paper and bags from LW paper with printing**” are intended to contact with food.

The requirements for products intended to come into direct contact with foodstuffs are given by Decree of the Health Ministry No. 38/2001 Coll., as amended (hereinafter referred to as Decree 38/2001) and by European Parliament and Council Regulation No. 1935/2004 (hereinafter referred to as Regulation 1935). The client required also the assessment according to the requirements of German Recommendation BfR XXXVI Paper and cardboard for foodstuffs (hereinafter referred to as BfR XXXVI).

General requirements - Decree 38, Regulation 1935, BfR XXXVI

The products intended to come into contact with foodstuffs shall be manufactured so that, under normal or foreseeable conditions of use, they do not transfer their constituents to food in quantities which could endanger human health or bring about an unacceptable change in the composition of the food or bring about a deterioration in the organoleptic characteristics thereof. The performed tests verified that the evaluated sample does not cause a deterioration in the organoleptic properties of the food (see the table on the page 3 of this attest). The constituent transferring is discussed further.

Requirements for paper products – Decree 38

- Assessment of base materials, additives, adjuvants and the other substances (§ 21, paragraph 1) is not a part of this Attest.
- The moisture of products made of paper packaging shall be up to the limit of 8 % w/w. The conformity was proved by the test – see the table on the page 4 of this Attest.
- Paper packaging for direct contact with foodstuffs shall not be used repeatedly – it is not supposed that the products will be repeatedly used.
- The products made of paper, cartons and cardboard shall meet hygienic requirements given by the part 4 of the supplement No. 12. The conformity was proved by the tests - see the table on the page 4 of this Attest.

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Requirements for paper products – BfR XXXVI

- Following requirements are valid for the cold water extract of the final products: maximum of 0.005 mg/kg of cadmium, 0.01 mg/kg of lead and 1.0 mg/l of aluminium. Hexavalent chromium shall not be detectable. The conformity was proved by the test – see the table on the page 5 of this Attest.
- The final product shall not have preservative effects during foodstuffs contact (See requirements of DIN EN 1104: Determination of the transfer of antimicrobial constituents) - the conformity was proved by the test – see the results mentioned on the page 7.
- Contents of formaldehyde and glyoxal in the cold water extract of the final product are limited – the conformity was proved by the tests – see the test results in the tables on the pages 4 and 5
- Requirements for optical brighteners, colorants and printing: The brighteners and colorants or printing shall not migrate into foodstuffs - the conformity was proved by the test according to ČSN EN 648 and ČSN EN 646 – see the test results in the tables on the page 7.
- Primary aromatic amines may not be released from the finished food contact material in a detectable amount. The detection limit is 0.01 mg/kg food or food simulant and applies to the sum of the released primary aromatic amines. Additionally, primary aromatic amines classified as carcinogens in classes 1A and 1B of the CLP Regulation (EC) 1272/2008 may not be released referred to the single substance with a detection limit of 0.002 mg/kg food or food simulant – see the test results in the table on the page 6.

**The opinion expressed and interpretation made by:**

Dipl. Ing. Šárka Kopečková, April 29, 2025

**Conclusion:**

The comparison of the obtained results with the limits of Decree No. 38/2001 Coll., as amended, of German Recommendation BfR XXXVI and of the article 3 of European Parliament and Council Regulation No. 1935/2004 and evaluation of the conformity with these regulations are mentioned on the page 1 of this attest.

Dipl. Ing. Daniel Vít  
Head of the laboratory of analytical  
chemistry and microbiology

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