



INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.

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

TESTING LABORATORY - TESTING DIVISION

issues

ATTEST

No. 472115575-01

On the sample:

Disposable ecological packaging „ecofoodbox“

Client:

OPTYS, spol. s r.o.

U Sušárny 301, 747 56 Dolní Životice, Czech Republic

ID: 428 69 048

Evaluation of the measured parameters:

The evaluated parameters mentioned on the pages 3 – 6 of the Attest **meet** hygienic requirements for **the products made of paper** given by Health Ministry Decree No. 38/2001 Coll., relating to hygienic requirements for the articles intended to come into contact with foodstuffs, as amended.

Regarding to the adhesive the evaluated sample **meets requirements for the limit values of the substances limited by their specific migration limit (SML):**

- According to the Annex I of Commission Regulation 10/2011 on plastic materials and articles intended to come into contact with food, as amended: formaldehyde, FCM 98, CAS 50-00-0, SML(T)= 15 mg/kg (group restriction No. 15); acetaldehyde, FCM 128, CAS 75-07-0, SML(T) = 6 mg/kg (group restriction No. 1); vinyl acetate, FCM 231, CAS 108-05-4, SML = 12 mg/kg
- According to German recommendation BfR XXXVI Paper and board for food contact: 5-Chloro-2-methyl-3(2H)-isothiazolone with 2-methyl-3(2H)-isothiazolone (Kathon 886), CAS 55965-84-9, max. 25 µg/dm²; 1,2-Benzisothiazol-3(2H)-one (BIT), CAS 2634-33-5, max. 80 µg/dm² and 2-Bromo-2-nitro-1,3-propanediol, CAS 52-51-7, N.D.(not-detectable in extract of the finished product).

The evaluated sample **does not cause a deterioration of 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. 472115575-01 issued on August 25, 2022.

Issued on: August 25, 2022

Valid till: August 31, 2025



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

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3. *If further requirements of national or EU legal regulations apply to the product, the Attest does not replace procedures and documents necessary for assessment of compliance with these regulations.*



ATTEST
No. 472115575-01
Submitted sample:



Fig. No. 1: Disposable ecological packaging „ecofoodbox“



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ATTEST
No. 472115575-01
Disposable ecological packaging „ecofoodbox“
Values obtained

Assessment of organoleptic properties

Food simulant		ČSN EN 1230-2 chocolate		ČSN EN 1230-1 without food simulant
Assessor No.	Unit	Odour	Flavour	Odour
1	level	0	0	1
2	level	0	0	1.5
3	level	0	0	1
4	level	0	0	1
5	level	0	0	1
6	level	0	0	2 (glue)
Mean	level	0	0	1.5

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 ¹⁾	Limit ²⁾
Moisture	% w/w	7.33±0.03	max. 8.0
PCB ³⁾	mg/kg of dry matter	< 0.10	max. 2.0
Polychlorinated phenols ⁴⁾	mg/kg of dry matter	< 0.05	max. 0.05
PAH ⁵⁾	mg/kg of dry matter	< 0.01	max. 0.05
Content of the substances in the leachate (20 dm² / 1000 ml of distilled water, (20±2) °C, 24 h)			
Formaldehyde	mg of CH ₂ O/ dm ²	< 0.01	max. 0.10
Total nitrogen	mg of N / dm ²	0.10±0.02	max. 0.2
Phthalates ⁶⁾	mg/dm ²	< 0.01	max. 0.20
Primary aromatic amines	mg /dm ² ⁷⁾	- ⁸⁾	max. 0.002
Phenolic compound	mg of phenol /dm ²	< 0.01	max. 0.05
Fluorescence (365 nm)	-	- ⁸⁾	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 expanded uncertainty 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 18, 28, 52, 101, 138, 153 a 180
- ⁴⁾ Polychlorinated phenols expressed as pentachlorophenol
- ⁵⁾ PAH – polycyclic aromatic hydrocarbons; sum of substances: 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⁾ mg of anilinhydrochloride/dm²
- ⁸⁾ The alternative test was performed – see the tables on the pages 5 and 6



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ATTEST

No. 472115575-01

Determination of fastness of fluorescent whitened paper according to ČSN EN 648

Procedure A; 23 °C / 24 h (long time contact); the contact side was evaluated

Simulant, food	Unit	Value obtained ¹⁾	Limit ²⁾
Distilled water	level	5	Min. 5
3% acetic acid	level	5	Min. 5
Alkaline salt solution pH 8.6	level	5	Min. 5
Olive oil	level	5	Min. 5

Notes to the table:

- 1) Level 5 corresponds to the zero content of fluorescent brighteners that migrate into filter paper = good fastness
- 2) Limit value according to German Recommendation BfR XXXVI Paper and cardboard for food contact

Specific migration of substances from adhesive

leachate: distilled water, (20±2) °C / 24 h; 200 cm² / 100 ml

Substance	Unit	Test result ¹⁾	Limit
Specific migration into distilled water, (60±2) °C / 10 days			
Formaldehyde, FCM 98, CAS 50-00-0	mg/kg ²⁾	< 0.4	max. 15 ³⁾
Acetaldehyde, FCM 128, CAS 75-07-0	mg/kg ²⁾	< 1	max. 6 ³⁾
Vinyl acetate, FCM 231, CAS 108-05-4	mg/kg ²⁾	< 1.5	max. 12 ³⁾
5-Chloro-2-methyl-3(2H)-isothiazolone with 2-methyl-3(2H)-isothiazolone (Kathon 886), CAS 55965-84-9	µg/dm ²	< 0.5	max. 25 ⁴⁾
1,2-Benzisothiazol-3(2H)-one (BIT), CAS 2634-33-5	µg/dm ²	< 0.5	max. 80 ⁴⁾
2-Bromo-2-nitro-1,3-propanediol, CAS 52-51-7	µg/dm ²	< 0.25	N.D. ^{4), 5)}

Notes to the table:

- 1) Symbol „<“ means less than LOQ (limit of quantification) of the analytical method.
- 2) Expressed as mg of substance per kg of simulant for migration ratio 6 dm² / 1 kg of simulant / food
- 3) Limit values according to the Ministry of Health Decree No. 38/2001 Coll., as amended and according to Commission Regulation (EU) No 10/2011, as amended
- 4) Limit value according to German recommendation BfR XXXVI Paper and board for food contact
- 5) The substance must not be detectable in extract of the finished product

FCM = Food Contact Material No.

CAS = unique numerical identifier assigned by the Chemical Abstracts Service

N.D. = not detectable by the analytical method used

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ATTEST

No. 472115575-01

Determination of primary aromatic amines (PAAs) in leachate

leachate: distilled water, (20±2) °C / 24 h; 20 dm² / 1000 ml

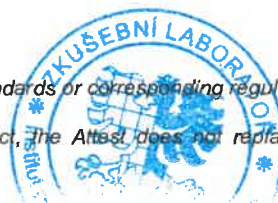
Primary aromatic amine (PAA)	CAS No.	Unit ¹⁾	Test result ²⁾	Limit ³⁾
PAAs classified as carcinogens in classes 1A and 1B of the CLP Regulation (EC) 1272/2008				
4-Amino-biphenyle	92-67-1	mg/dm ²	< 0.0001	-
Benzidine	92-87-5	mg/dm ²	< 0.0001	-
4-Chlor-o-toluidine	95-69-2	mg/dm ²	< 0.0001	-
2-Naphthylamine	91-59-8	mg/dm ²	< 0.0001	-
o-Aminoazotoluene	97-56-3	mg/dm ²	< 0.0001	-
p-Chlor -aniline	106-47-8	mg/dm ²	< 0.0001	-
2,4-Diamino-anisole	615-05-4	mg/dm ²	< 0.0001	-
4,4'-Diamino-diphenylmethane	101-77-9	mg/dm ²	< 0.0001	-
3,3'-Dichlor-benzidine	91-94-1	mg/dm ²	< 0.0001	-
3,3'-Dimethoxy-benzidine	119-90-4	mg/dm ²	< 0.0001	-
3,3'-Dimethyl-benzidine	119-93-7	mg/dm ²	< 0.0001	-
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	mg/dm ²	< 0.0001	-
p-Keresidine	120-71-8	mg/dm ²	< 0.0001	-
4,4'-Methylen-bis(2-chloraniline)	101-14-4	mg/dm ²	< 0.0001	-
4,4'-Oxy-dianiline	101-80-4	mg/dm ²	< 0.0001	-
4,4'-Thio-dianiline	139-65-1	mg/dm ²	< 0.0001	-
o-Toluidine	95-53-4	mg/dm ²	< 0.0001	-
2,4-Toluenediamine	95-80-7	mg/dm ²	< 0.0001	-
2,4,5-Trimethyl-aniline	137-17-7	mg/dm ²	< 0.0001	-
o-Anisidine	90-04-0	mg/dm ²	< 0.0001	-
o-Aminoazobenzene	60-09-3	mg/dm ²	< 0.0001	-
Screening for others	4)	-	No PAA detected ⁵⁾	-
Sum of detected PAAs	-	mg/dm ²	-	max. 0.002

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 the Ministry of Health Decree No. 38/2001 Coll., 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 of leachate, i.e., 0.00025 mg/dm² papíru
- 6) mg of anilinhydrochloride/dm²

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

Attest No. 472115575-01

Sample description and identification:

ITC's number	Sample identification by the client	Description of the submitted sample
15575/1	Disposable ecological packaging „ecofoodbox“	Sand brown cardboard boxes with glued joints and "ecofoodbox" printed on the outside – see the fig. No. 1 on the page 2 of this attest

Together with the sample a set of documents was supplied. The documentation includes following items (below marked by letter D):

- D1 – conformity declaration of the material „CKB Nude™“ with regulation 1935/2004/EC and with Germany recommendation BfR XXXVI Paper and board for food contact, issued by Stora Enso Consumer Board, on September 13, 2019
- D2 – conformity declaration of adhesive “Ipacoll® PWC 3135 PB” with requirements given by Commission Regulation (EU) No. 10/2011, Germany recommendations BfR XIV Plastic Dispersions and BfR XXXVI Paper and board for food contact and regulation 1935/2004/EC, issued by H.B. Fuller Europe GmbH, Switzerland, on April 20, 2021
- D3 – conformity declaration of printing inks “Novasens® BCS PREMIUM” with regulation 1935/2004/EC and with Swiss Ordinance 817.023.21, issued by FlintGroup

Work requested:

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.

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 product “**Disposable ecological packaging „ecofoodbox“** is 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), by Commission Regulation EU No. 10/2011 (hereinafter referred to as Regulation 10/2011) and by European Parliament and Council Regulation No. 1935/2004 (hereinafter referred to as Regulation 1935).

General requirements – Decree 38, Regulation 1935

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 of 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, § 22, paragraph 2) is not a part of this Attest.

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Testing Laboratory - D2

Attest No. 472115575-01

- 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 and the product meets all limit values except the parameter “fluorescence in leachate”. The migration of optical brighteners into food simulants according to ČSN EN 648 was also verified alternatively. The optical brighteners do not migrate into all simulants at long time contact. The test results are listed in the table on the pages 4 and 5 of this Attest. The determination of primary aromatic amines in the water extract for individual substances was performed by LC-MS/MS method. The test results of this test are listed in the table on the page 6 of this attest.

Migration of components from materials and products shall not exceed specific migration limits (SML) or other restrictions included in the lists of substances. The client submitted documentation for the sample materials – see D1 – D3. Based on the information about the presence of substances restricted by SML in the glue, the specific migration of the following substances was verified: formaldehyde, FCM 98, CAS 50-00-0; acetaldehyde, FCM 128, CAS 75-07-0; vinyl acetate, FCM 231, CAS 108-05-4; 5-Chloro-2-methyl-3(2H)-isothiazolone with 2-methyl-3(2H)-isothiazolone (Kathon 886), CAS 55965-84-9; 1,2-Benzisothiazol-3(2H)-one (BIT), CAS 2634-33-5 and 2-Bromo-2-nitro-1,3-propanediol, CAS 52-51-7. The test results of the specific migrations including migration conditions are mentioned in the table on the page 5 of this attest. The measured values of the specific migrations meet the required limit values according to Annex I to Regulation 10/2011 or according to German recommendation BfR XXXVI Paper and board for food contact.

The opinion expressed and interpretation made by:

Dipl. Ing. Šárka Kopečková, August 25, 2022

Conclusion:

The comparison of the obtained results with the limits of Decree No. 38/2001 Coll., as amended, of Commission Regulation (EU) No. 10/2011, as amended 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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