



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

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

**Testing Laboratory No. 1004**

accredited by ČIA according to ČSN EN ISO/IEC 17025:2005



Testing laboratory \* Calibration laboratory \* Product certification body \* Quality management systems certification body  
Inspection body \* Authorized body \* Notified body

Number of pages: 5

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## **ACCREDITED LABORATORY TEST REPORT ref. No. 472112495-01**

**Client:** F. U. H. "VIDE" mgr inž. Dorota Ławniczak  
VAT No. PL5482454617

**Address:** ul. J. Słowackiego 16, 43-410, Zebrzydowice, Poland

**Issued for :** JARS S.A.  
Lajski, ul. Koscielna 2a, 05-119 Legionowo, Poland

**Sample:** Samples of PET flakes  
– see sample description on the page No. 2 of this document

**Sample received on:** August 13, 2019

**Report elaborated by:** Dipl. Ing. Daniel Vít

**Place and date of issue:** Zlín, September 2, 2019



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Dipl. Ing. Jiří Samsonek, Ph.D.  
Head of Accredited Testing Laboratory

**Note: The results given in this Test Report apply only to the sample tested by our laboratory!**  
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**Description and identification:**

The client supplied for the testing samples of PET flakes. For sample description see table No I.

**Table No. I – Description of supplied samples according to the client**

ITC identification No.	Sample name according to the client
472112495/01	sample No. 3290/08/19 – flakes clear



**Fig. I - supplied sample of flakes**

**Sampling method used:**

The test sample was collected and supplied to the laboratory by the client. The laboratory is not responsible for this way of sampling.

**Work requested:**

Evaluation of **selected hygienic parameters** according to the requirements of Commission Regulation 10/2011 as amended.

**Testing method used:**

The following tests were performed :

1. Overall migration into distilled water according to ČSN EN 1186 - 3
2. Determination of specific migration of elements (Al, Ba, Co, Cu, Fe, Li, Mn, Zn, Ni) in the leachate by means of ICP MS method according to the ITC's test procedure A-10-97

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**Test conditions:**

The test conditions were selected by the client. The client also supplied information about the surface/weight ratio of the sample: 19,29 grams of the flakes has the surface of 100cm<sup>2</sup>

Ad 1.	100cm <sup>2</sup> of flakes / 100 ml of food simulant 40°C, 10 days, 3% acetic acid, evaluation of the first migration 40°C, 10 days, 10% ethanol, evaluation of the first migration 40°C, 10 days, 95% ethanol, evaluation of the first migration 20°C, 2 days, isooctane, evaluation of the first migration
Ad 2.	60cm <sup>2</sup> of flakes / 100 ml of food simulant 60°C, 10 days, 3% acetic acid, evaluation of the first migration 60°C, 10 days, 10% ethanol, evaluation of the first migration 60°C, 10 days, 95% ethanol, evaluation of the first migration

*The laboratory is not responsible for information received from customer, which could have influence on the validity of the results. Further information required by the standard/standards and not given in this Test Report are available at a request at the Laboratory.*

**Testing laboratory:**

The tests were performed in Workplace no.: 1 - třída Tomáše Bati 299, Louky, 763 02 Zlín.

**Test results:**
**Table No. II –Overall migration test results**

Parameter	Unit	Value obtained				Uncertainty <sup>1)</sup>	Limit <sup>2)</sup>	Evaluation
		1	2	3	Mean value			
Sample No. 472112495/01 – sample No. 3290/08/19 – flakes clear								
Overall migration into 3% acetic acid 40°C, 10 days	mg/dm <sup>2</sup>	4,2	4,2	4,5	4,3	0,4	10	Compliance
Overall migration into 10% ethanol 40°C, 10 days	mg/dm <sup>2</sup>	2,7	3,1	3,4	3,1	0,5	10	Compliance
Overall migration into 95% ethanol 40°C, 10 days	mg/dm <sup>2</sup>	1,4	2,0	2,7	2,0	0,8	10	Compliance
Overall migration into isooctane 20°C, 2 days	mg/dm <sup>2</sup>	2,7	3,1	3,1	3,0	0,4	10	Compliance

Notes :

- 1) Expanded uncertainty for coverage factor  $k = 2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%
- 2) Limit value according to Commission Regulation No. 10/2011, as amended

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**Table No. III. – Specific migration test results**

Parameter	Unit <sup>4)</sup>	Value obtained <sup>1)</sup>	Uncertainty <sup>2)</sup>	Limit <sup>3)</sup>	Evaluation
<b>Sample No. 472112495/01 – sample No. 3290/08/19 – flakes clear</b>					
<b>Specific migration into 3% acetic acid, 60°C, 10 days, evaluation of the 1<sup>st</sup> migration</b>					
Aluminium	mg/kg	< 0,1	-	max. 1	Compliance
Barium	mg/kg	< 0,05	-	max. 1	Compliance
Cobalt	mg/kg	< 0,005	-	max. 0,05	Compliance
Copper	mg/kg	< 0,05	-	max. 5	Compliance
Iron	mg/kg	0,19	0,02	max. 48	Compliance
Lithium	mg/kg	< 0,01	-	max. 0,6	Compliance
Manganese	mg/kg	< 0,01	-	max. 0,6	Compliance
Zinc	mg/kg	< 0,1	-	max. 5	Compliance
Nickel	mg/kg	< 0,01	-	max. 0,02	Compliance
<b>Specific migration into 10% ethanol, 60°C, 10 days, evaluation of the 1<sup>st</sup> migration</b>					
Aluminium	mg/kg	< 0,1	-	max. 1	Compliance
Barium	mg/kg	< 0,1	-	max. 1	Compliance
Cobalt	mg/kg	< 0,01	-	max. 0,05	Compliance
Copper	mg/kg	< 0,1	-	max. 5	Compliance
Iron	mg/kg	< 0,5	-	max. 48	Compliance
Lithium	mg/kg	< 0,05	-	max. 0,6	Compliance
Manganese	mg/kg	< 0,05	-	max. 0,6	Compliance
Zinc	mg/kg	< 0,5	-	max. 5	Compliance
Nickel	mg/kg	< 0,01 ; 0,013 <sup>4)</sup>	-	max. 0,02	Compliance

**Notes :**

- 1) Symbol „<“ means LOD (limit of detection) of used analytical method
- 2) Expanded uncertainty for coverage factor  $k = 2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%
- 3) Limit values according to the Commission Regulation 10/2011, as amended
- 4) Individual results of 2 samples reported, mean value was not calculated because one of the results was below LOD

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**Table No. IV. – Specific migration test results**

Parameter	Unit <sup>4)</sup>	Value obtained <sup>1)</sup>	Uncertainty	Limit <sup>2)</sup>	Evaluation
<b>Sample No. 472112495/01 – sample No. 3290/08/19 – flakes clear</b>					
<b>Specific migration into 95% ethanol, 60°C, 10 days, evaluation of the 1<sup>st</sup> migration</b>					
Aluminium	mg/kg	< 0,1	-	max. 1	Compliance
Barium	mg/kg	< 0,1	-	max. 1	Compliance
Cobalt	mg/kg	< 0,01	-	max. 0,05	Compliance
Copper	mg/kg	< 0,1	-	max. 5	Compliance
Iron	mg/kg	< 0,5	-	max. 48	Compliance
Lithium	mg/kg	< 0,05	-	max. 0,6	Compliance
Manganese	mg/kg	< 0,05	-	max. 0,6	Compliance
Zinc	mg/kg	< 0,5	-	max. 5	Compliance
Nickel	mg/kg	< 0,02	-	max. 0,02	Compliance

Notes :

- 1) Symbol „<“ means LOD (limit of detection) of used analytical method
- 2) Limit values according to the Commission Regulation 10/2011, as amended

**Evaluation carried out by:**

Dipl. Ing. Daniel Vít

Dipl. Ing. Věra Vilímková

Head of the laboratory of analytical chemistry and microbiology

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