



# INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.

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

TESTING LABORATORY - TESTING DIVISION

issues

## ATTEST

### No. 472114298-01

On sample:

### Polyamide technical sieves UHELON

Client:

**SILK & PROGRESS, spol. s r.o., Moravská Chrastová 29, 569 04 Brněnec,  
Czech Republic, ID: 45539961**

#### Evaluation of the measured parameters:

The evaluated parameters mentioned on the pages 2 – 6 of the Attest meet hygienic requirements for the **products made of plastics for repeated use** given by **Czech Health Ministry Decree No. 38/2001 Coll.**, relating to hygienic requirements for the articles intended to come into contact with foodstuffs, as amended and **Commission Regulation (EU) No. 10/2011 of 14<sup>th</sup> January 2011** on plastic materials and articles intended to come into contact with food, as amended.

#### Food contact conditions:

- Contact with hot water for up to 0.5 h at temperatures up to 100 °C
- Contact with dry and dairy foodstuff types and the other ones for which the migrations into food simulants D1 and E shall be performed for up to 0.5 h at temperatures up to 40 °C
- Ratio: 60 cm<sup>2</sup> of product area/100 g (ml) of food (or more)

#### The evaluated sample meets requirements for the limit values of the substances limited by their specific migration limits (SML):

- According to the Annex I of Commission Regulation 10/2011: Caprolactam, PM/Ref. No. 14200/41840, CAS 105-60-2 and hexamethylenediamine, PM/Ref. No. 15274/18460, CAS 124-09-4
- According to the Annex I of Commission Regulation 10/2011: primary aromatic amines
- According to the Annex II of Commission Regulation 10/2011: metals and primary aromatic amines.

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. 472114298-01 issued on July 21, 2021.

**Issued on:** July 21, 2021

**Valid till:** July 31, 2024



  
**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. 472114298-01**  
**Values obtained**

**Identification of low-molecular substances by method TD-GC-MS**  
**Polyamide technical sieves UHELON**

Substance name <sup>1)</sup>	CAS	FCM	Comment
caprolactam	105-60-2	212	Substances listed in Annex I with SML= 15 mg/kg
alcohols, C <sub>4</sub> -C <sub>24</sub>		13	Substances listed in Annex I without limit
fatty acids, C <sub>8</sub> -C <sub>18</sub>	-	9, 10	Substances listed in Annex I without limit

**Notes to Table:**

<sup>1)</sup> Identified substances can be either original ones, presented in the sample, or it can be degradation products. Match of the MS spectra of found substances with standard MS spectra from D-base are in the range of 70-95 %. The compounds which are also presented in the blank are not given in the table above.

FCM = Food Contact Material No.

CAS No. = unique numerical identifier assigned by the Chemical Abstracts Service

Annex I = Annex I of Commission Regulation (EU) 10/2011 – list of authorised substances

SML = specific migration limit

**Assessment of organoleptic properties**  
**Polyamide technical sieves UHELON**

Food, contact conditions		boiled and cooled drinking water 100 °C / 0.5 h	
Assessor No.	Unit	Odour	Flavour
1	level	0	1
2	level	0	0
3	level	0	1
4	level	0	1
5	level	0	0
6	level	0	0
<b>Mean</b>	<b>level</b>	<b>0</b>	<b>0.5</b>

**Notes to Table:**

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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## ATTEST No. 472114298-01

### Values obtained Overall migration determination Polyamide technical sieves UHELON

	Unit	Value obtained <sup>1)</sup>				Analytical tolerance <sup>2)</sup>	Limit <sup>3)</sup>
		1.	2.	3.	Mean		
<b>Migration conditions</b>		<b>Distilled water; OM4 (100 °C/1 h); 100 cm<sup>2</sup>/100 ml; by total immersion</b>					
<b>1<sup>st</sup> migration</b>	mg/dm <sup>2</sup>	2,2	3,8	2,5	<b>2,8</b>	1	-
<b>2<sup>nd</sup> migration</b>	mg/dm <sup>2</sup>	<1	<1	<1	<1	1	-
<b>3<sup>rd</sup> migration</b>	mg/dm <sup>2</sup>	<1	<1	<1	<1	1	10
<b>Migration conditions</b>		<b>50% ethanol; OM3 (70 °C/2 h); 100 cm<sup>2</sup>/100 ml; by total immersion</b>					
<b>1<sup>st</sup> migration</b>	mg/dm <sup>2</sup>	3,2	2,4	3,4	<b>3,0</b>	1	-
<b>2<sup>nd</sup> migration</b>	mg/dm <sup>2</sup>	<1	<1	<1	<1	1	-
<b>3<sup>rd</sup> migration</b>	mg/dm <sup>2</sup>	1,0	1,2	1,0	<b>1,1</b>	1	10
<b>Migration conditions</b>		<b>MPPO <sup>4)</sup>; OM3 (70 °C/2 h); 4 g/100 cm<sup>2</sup></b>					
<b>1<sup>st</sup> migration</b>	mg/dm <sup>2</sup>	<2	<2	<2	<2	3	-
<b>2<sup>nd</sup> migration</b>	mg/dm <sup>2</sup>	<2	<2	<2	<2	3	-
<b>3<sup>rd</sup> migration</b>	mg/dm <sup>2</sup>	<2	<2	<2	<2	3	10

**Notes to Table:**

- 1) Symbol „<“ means less than the LOQ (limit of quantification) of the analytical method.
- 2) According to ČSN EN 1186-1, article 12.3.
- 3) Limit values according to Decree of Health Ministry No. 38/2001 Coll., as amended and according to Commission Regulation (EU) No 10/2011, as amended
- 4) MPPO – modified polyphenyleneoxide

### Test result of specific migration of primary aromatic amines (PAAs) - Annex I (10/2011);

#### Polyamide technical sieves UHELON

Food simulant 3% acetic acid, 100°C / 0.5 h

Primary aromatic amine (PAAs)	CAS	Unit <sup>1)</sup>	Test result <sup>2)</sup>			Limit <sup>3)</sup>
			1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	
Bis(4-aminophenyl)sulphone	80-08-0	mg/kg	< 0.005	< 0.005	< 0.005	max. 5
2-Aminobenzamide	88-68-6	mg/kg	< 0.005	< 0.005	< 0.005	max. 0.05
1,3-Phenylenediamine	108-45-2	mg/kg	< 0.002	< 0.002	< 0.002	max. 0.002
1,3-Bis(aminomethyl)benzene	1477-55-0	mg/kg	< 0.005	< 0.005	< 0.005	max. 0.05

**Notes to Table:**

- 1) Expressed as mg of substance per kg of 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

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# ATTEST

## No. 472114298-01

### Test result of specific migration of primary aromatic amines (PAAs) - Annex II (10/2011) Polyamide technical sieves UHELON

Food simulant 3% acetic acid, 100°C / 0.5 h

Primary aromatic amine (PAA)	CAS	Unit <sup>1)</sup>	Test result <sup>2)</sup>			Limit <sup>3)</sup>
			1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	
<b>PAAs listed in entry 43 to Appendix 8 of Annex XVII to REACH</b>						
4-Amino-biphenyle	92-67-1	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
Benzidine	92-87-5	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
4-Chlor-o-toluidine	95-69-2	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
2-Naphthylamine	91-59-8	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
o-Aminoazotoluene	97-56-3	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
2-Amino-4-nitro-toluene	99-55-8	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
p-Chlor -aniline	106-47-8	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
2,4-Diamino-anisole	615-05-4	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
4,4'-Diamino-diphenylmethane	101-77-9	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
3,3'-Dichlor-benzidine	91-94-1	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
3,3'-Dimethoxy-benzidine	119-90-4	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
3,3'-Dimethyl-benzidine	119-93-7	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
p-Keresidine	120-71-8	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
4,4'-Methylen-bis(2-	101-14-4	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
4,4'-Oxy-dianiline	101-80-4	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
4,4'-Thio-dianiline	139-65-1	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
o-Toluidine	95-53-4	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
2,4-Toluenediamine	95-80-7	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
2,4,5-Trimethyl-aniline	137-17-7	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
o-Anisidine	90-04-0	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
o-Aminoazobenzene	60-09-3	mg/kg	< 0.002	< 0.002	< 0.002	N.D.
<b>Other PAAs (not listed in REACH)</b>						
2,4-dimethylaniline	95-68-1	mg/kg	< 0.005	< 0.005	< 0.005	-
2,6-dimethylaniline	87-62-7	mg/kg	< 0.005	< 0.005	< 0.005	-
1,5-diaminonaphthalene	2243-62-	mg/kg	< 0.005	< 0.005	< 0.005	-
Aniline	62-53-3	mg/kg	< 0.005	< 0.005	< 0.005	-
Screening for others		-	No PAA detected			
Sum of detected PAAs		mg/kg	-	-	-	max. 0.01

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**ATTEST**  
**No. 472114298-01**  
**Values obtained**

**Notes to Table:**

- 1) Expressed as mg of substance per kg of 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
- REACH = Regulation (EC) No. 1907/2006 of European Parliament and of Council  
N.D. = not detectable; limit of detection 0.002 mg/kg

**Specific migration of metals**  
**Polyamide technical sieves UHELON**

Element	Unit	Test results <sup>1)</sup>			Limit <sup>2)</sup>
		1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	
<b>3% acetic acid, 100 °C / 0.5 h</b>					
Aluminium Al	mg/kg	< 0.10	< 0.10	< 0.10	max. 1
Antimony Sb	mg/kg	< 0.005	< 0.005	< 0.005	max. 0.04
Barium Ba	mg/kg	< 0.05	< 0.05	< 0.05	max. 1
Cobalt Co	mg/kg	< 0.005	< 0.005	< 0.005	max. 0.05
Copper Cu	mg/kg	< 0.05	< 0.05	< 0.05	max. 5
Iron Fe	mg/kg	< 0.10	< 0.10	< 0.10	max. 48
Lithium Li	mg/kg	< 0.01	< 0.01	< 0.01	max. 0.6
Manganese Mn	mg/kg	0,012±0,003	<0.01	<0.01	max. 0.6
Nickel Ni	mg/kg	< 0.01	< 0.01	< 0.01	max. 0.02
Zinc Zn	mg/kg	< 0.10	< 0.10	< 0.10	max. 5
Europium Eu	mg/kg	< 0.001	< 0.001	< 0.001	max. 0.05
Gadolinium Gd	mg/kg	< 0.001	< 0.001	< 0.001	max. 0.05
Lanthanum La	mg/kg	< 0.001	< 0.001	< 0.001	max. 0.05
Terbium Tb	mg/kg	< 0.001	< 0.001	< 0.001	max. 0.05
Sum of Lanthanides	mg/kg	< 0.004	< 0.004	< 0.004	max. 0.05
Arsenic As	mg/kg	< 0.001	< 0.001	< 0.001	N.D. (0.01)
Cadmium Cd	mg/kg	< 0.001	< 0.001	< 0.001	N.D. (0.002)
Chromium Cr	mg/kg	< 0.005	< 0.005	< 0.005	N.D. (0.01)
Lead Pb	mg/kg	< 0.005	< 0.005	< 0.005	N.D. (0.01)
Mercury Hg	mg/kg	< 0.002	< 0.002	< 0.002	N.D. (0.01)

**Notes to Table:**

- 1) Symbol „<“ means less than limit of detection of the analytical method. The test result is expressed including the reported 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 Commission Regulation (EU) 10/2011 as amended
- N.D. = not detectable; for limit of detection see the value in brackets

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**ATTEST**  
**No. 472114298-01**  
Values obtained

**Specific migration determination of monomers and additives**  
**Polyamide technical sieves UHELON**

Food simulant	Unit <sup>1)</sup>	Test result <sup>2)</sup>			Limit <sup>3)</sup>
		1 <sup>st</sup> migration	2 <sup>nd</sup> migration	3 <sup>rd</sup> migration	
<b>Caprolactam, PM/Ref. No. 14200/41840, CAS 105-60-2</b>					
Distilled water, 100 °C / 0.5 h	mg/kg	<1	<1	<1	max 15
50% ethanol, (40±2) °C / 0.5 h	mg/kg	<1	<1	<1	max 15
MPPO <sup>4)</sup> , (40±2) °C / 0.5 h	mg/kg	<1	<1	<1	max 15
<b>Hexamethylenediamine, PM/Ref. No. 15274/18460, CAS 124-09-4</b>					
Distilled water, 100 °C / 0.5 h	mg/kg	<0.005	<0.005	<0.005	max 2.4
50% ethanol, (40±2) °C / 0.5 h	mg/kg	<0.005	<0.005	<0.005	max 2.4
MPPO <sup>4)</sup> , (40±2) °C / 0.5 h	mg/kg	<0.005	<0.005	<0.005	max 2.4

**Notes to Table:**

- 1) Expressed as mg of substance / element 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) No 10/2011 as amended. The values of 3<sup>rd</sup> migration are compared to the limits.
- 4) MPPO – modified polyphenyleneoxide

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Attest No. 472114298-01

**Sample description and identification:**

ITC's number	Sample identification by client	Description of submitted sample
14298/1	Polyamide technical sieve – UHELON 110T	Uncoloured fabric mesh

Together with the sample the following document was supplied:

- D1 - declaration of conformity of the material „Polyamide 6.6 Monofil Type E21240“ with the Commission Regulation (EU) No 10/2011, issued by Monosuisse AG Switzerland, on May 21, 2021
- D2 – declaration of conformity of the material „ Polyamide 6.6 Monofilament Type E31240 “ with the Commission Regulation (EU) No 10/2011, issued by Monosuisse AG Switzerland, on May 21, 2021
- D3 – declaration of conformity of the material „ Polyamide 6.6. Monofilament Type E31540 “ with the Commission Regulation (EU) No 10/2011, issued by Monosuisse AG Switzerland, on May 21, 2021
- D4 – declaration of conformity of the material „ PA66 Monofilament Type E11410 “ with the Commission Regulation (EU) No 10/2011, issued by Monosuisse sp. z o. o, Poland, on May 21, 2021
- D4 – declaration of conformity of the material „ PA6 Monofilament Type A1141H “ with the Commission Regulation (EU) No 10/2011, issued by Monosuisse sp. z o. o, Poland, on May 21, 2021

**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* and Commission Regulation EU No. 10/2011 *on plastic materials and articles intended to come into contact with food*, as amended.

**Opinions and interpretations:**

The evaluated products **“Polyamide technical sieves UHELON”** are intended to contact with food for repeated use.

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 38/2001, 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 influence the organoleptic properties of the food (see the table on the page 2 of this attest). The constituent transferring is discussed further.

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**INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.**  
třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic  
**Testing Laboratory - D2**

Attest No. 472114298-01

The submitted samples were screened for NIAS (non-intentionally added substances) by TD-GC-MS method. The identified substances including their restrictions are listed in the table on the page 2 of this attest. No substances classified as NIAS was found by TD-GC-MS method.

Requirements for plastic products - Decree 38/2001, Regulation 10/2011

Only the monomers and other basic substances listed in the supplement of Decree 38/2001 or Regulation 10/2011 can be used for the manufacturing of the plastic products intended into contact with foodstuffs, complying with defined limitation. The client supplied the document (see D1-D5) confirming the conformity of the polyester sieves material with the requirements of the legislation.

Plastic materials and articles shall not transfer their constituents to foodstuffs in quantities exceeding 10 milligrams per square decimetre of surface area of material or article (mg/dm<sup>2</sup>) (limit of overall migration). The test results including migration conditions are mentioned on the page 3 of this attest.

Migration of components from plastic materials and products shall not exceed specific migration limits (SML) or other restrictions included in the list of substances. There are the substances restricted by SML: caprolactam, PM/Ref. No. 14200/41840, CAS 105-60-2 and hexamethylenediamine, PM/Ref. No. 15274/18460, CAS 124-09-4. The test results of the specific migration of these substances including the migration conditions are mentioned in the table on the page 6 of this attest. All measured values of specific migration meet the required limit value.

General restrictions on plastic materials and articles according to the Commission Regulation No. 10/2011/EC:

Materials and articles shall not release primary amines in foods or food simulants in quantities exceeding the specific migration limits set out in the Annex I and II to this Regulation. The results are mentioned in the tables on pages 3 and 4 of this attest.

Materials and articles shall not release metals in foods or food simulants in quantities exceeding the specific migration limits set out in the Annex II to this Regulation. The results are mentioned in the table on page 5 of this attest.

**Tests results of overall and specific migration meet the above-mentioned requirements under following conditions:**

- **contact with hot water for up to 0.5 h at temperatures up to 100 °C**
- **contact with dry and dairy foodstuff types and the other ones for which the migrations into food simulants D1 and E shall be performed for up to 0.5 h at temperatures up to 40 °C**
- **Ratio: 40 cm<sup>2</sup> of product area/100 g (ml) of food (or more)**

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

Dipl. Ing. Ludmila Zálešáková, July 21, 2021

**Conclusion:**

The comparison of obtained results with limits of Decree No. 38/2001 Coll., as amended, of Commission Regulation (EU) No. 10/2011 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. Věra Vilímková  
Head of the laboratory of analytical chemistry and microbiology

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