



ZAVOD ZA ZDRAVSTVENO VARSTVO MARIBOR
INSTITUTE OF PUBLIC HEALTH MARIBOR

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DAT.:IVOTS_34PR11-HIP-PETROHEMIJA-polymerSKL-11495AN

Evidence code: 134-11/5614-11/11495-A

**ANALYSIS OF THE MATERIALS INTENDED TO COME INTO
CONTACT WITH FOOD –
PENG 22003**

Maribor, November 2011

Title: ANALYSIS OF THE MATERIALS INTENDED TO COME
INTO CONTACT WITH FOOD – PENG 22003

Test performed by: Public Health Institute
ENVIRONMENTAL PROTECTION INSTITUTE
Prvomajska ulica 1, 2000 MARIBOR
Phone: (02) 45 00 100
Fax: (02) 45 00 227
Transaction acc.: 01100-6030926630

Upon the order of: HIP PETROHEMIJA ad PANČEVO
SPOLJNOSTARČEVAČKA 82
26000 PANČEVO
SRBIJA

Evidence code: 134-11/5614-11/11495-A
Work order: Order: 25.08.2011
Branch No.: 34 - Commodities for General Use

Responsible for the test: Alenka Labovič, B.Sc.Eng.

Maribor, November .04, 2011

DEPARTMENT FOR WATER, FOOD
AND COMMODITIES FOR GENERAL USE

Head:

M.Sc.Slavko Lapajne, B.Sc.Chem.Eng.



ENVIRONMENTAL PROTECTION
INSTITUTE

Principal:

M.Sc. Emil Žerjal, B.Sc.Chem.Eng.

BASIC DATA

Sample: PENG 22003
Evidence code.: 134-11/5614-11/11495-A
Owner: HIP PETROHEMIJA ad PANČEVO, Spoljnostarčevačka 82, 26000 Pančevo, Srbija
Upon the order of: HIP PETROHEMIJA ad PANČEVO, Spoljnostarčevačka 82, 26000 Pančevo, Srbija
Sample taken by: HIP PETROHEMIJA ad PANČEVO, Spoljnostarčevačka 82, 26000 Pančevo, Srbija
Sample taken on: August 30, 2011
Sample taken at: HIP PETROHEMIJA ad PANČEVO, Spoljnostarčevačka 82, 26000 Pančevo, Srbija
Sample received by: Aleksandra Moik
Sample received on: August 30, 2011
Sample tested till: November .04, 2011

RESULTS OF THE EXAMINATION**Description of the sample**

Name and designation:

PENG 22003

Appearance

The sample is made of white coloured polyethylene granules. Surfaces have no odour or visible irregularity.

Analytic results

Plastic material: Rules of testing materials and articles intended to come into contact with foodstuffs (OJRS, No. 131/2003, 65/2008), annex I, II (Directive 82/711/EEC with amendments)*:

Conditions: 10 days, at 40°C, one time migration period:

- simulant distilled water (A): overall migration of organic compounds,
- simulant 3% acetic acid (B): overall migration, specific migration of metals, specific migration of primary aromatic amines,
- simulant 50 vol.% ethanol X(b): overall migration

Conditions: 10 days/2 days (isooctane), at 40°C/20°C (isooctane), one time migration period:

- 95 vol.% ethanol, isooctane (D): overall migration.

Specific migration of the primary aromatic amines was performed by National Institute of Public Health, Department for the Sanitary Chemistry, Grablovičeva 44, 1000 Ljubljana; Sample: 2011/3571, date of the report: 19.10.2011.

*

- distilled water: simulant A: aqueous foods (i.e. aqueous foods having a pH >4,5)
- 3% acetic acid: simulant B: acidic foods (i.e. aqueous foods having a pH ≤4,5)
- 50 vol.% ethanol: simulant X(b): food that have lipophilic character (i.e. milk and milk products)
- 95 vol.% ethanol, isooctane: simulant D: fatty foods
- 10 days, 40°C: plastic materials and articles intended to come into contact with foodstuffs at room temperature or below for an unspecified period

Analytic results are given in the enclosure – sample No.: 11/11495.

Opinion and assessment

Eluates of the sample into the selected simulants are without foreign smell and taste.

We measured the overall and specific migration into the selected simulants.

The measured concentrations of overall migration into selected simulants of the 3% acetic acid, 50 vol.% ethanol are lower than limit value 10 mg/dm².

Migration of organic compounds into distilled water, measured as total organic carbon (TOC), is below 0,5 mg/l of the simulant.

Specific migrations of the elements and primary aromatic amines are lower than limit values and lower than limit of the quantification for determining the selected analytical methods.

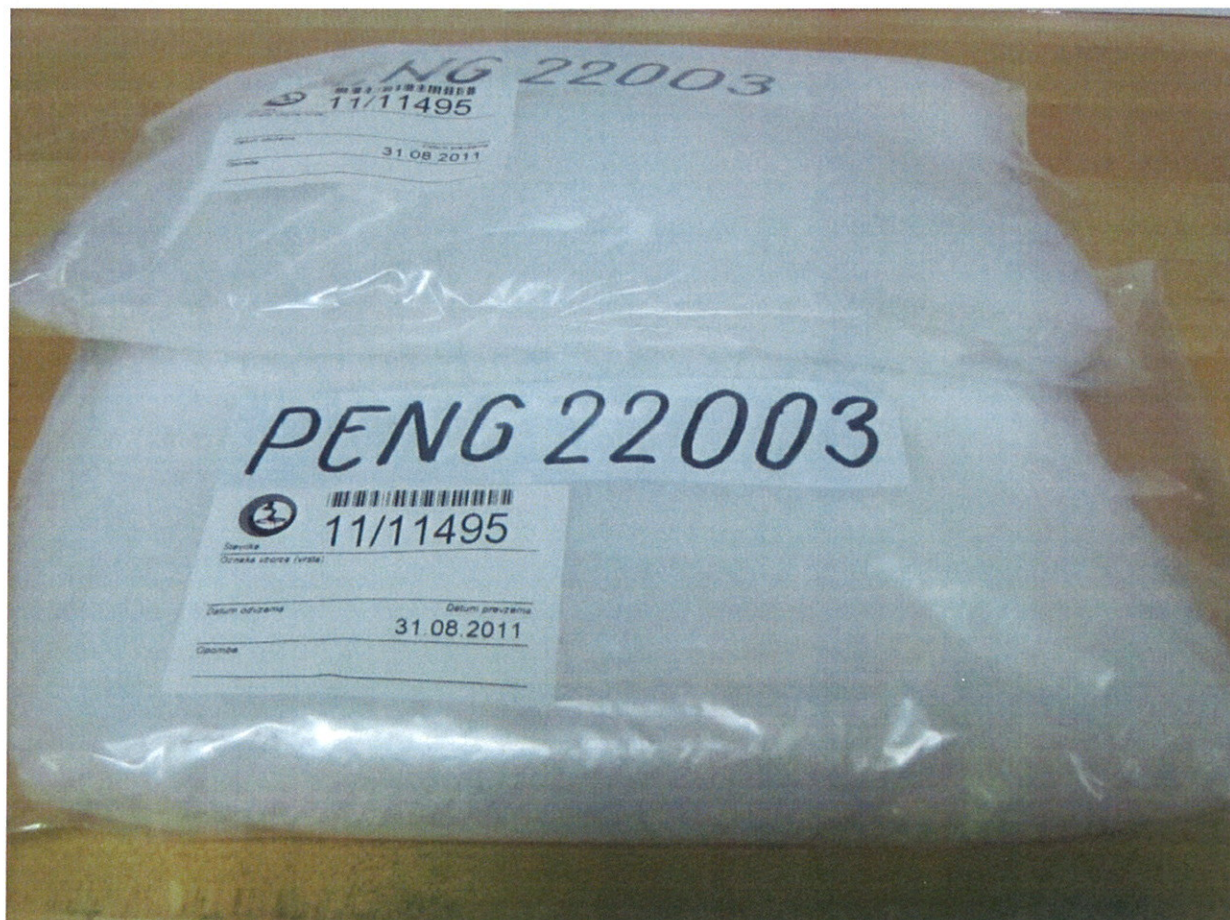
The measured concentration of overall migration into 95 vol.% ethanol and isooctane are above the limit value 10 mg/dm². Simulants are used for fatty food testing. Regarding that the final use of the sample which could come into contact with the specific fatty food is not known, the reduction factor is not used. The testing of the final product for fatty food contact, made from the granule sample PENG 22003 is recommended.

With regard to the results of the overall and specific migration into the food simulants (A, B, X(b)), the sample of the PENG 22003, Sample No 11/11495, have been found to comply with the stipulations of:

- Art. 3 of Regulation No. 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food and repealing Directive 80/590/EEC and 89/109/EEC;
- Commission Directive 2002/72/EC, relating to plastic materials and articles intended to come into contact with foodstuffs (with amendments 2004/1, 2004/19, 2005/79, 2007/19, 2008/39, 975/2009, 2011/8);
- Art. 10, 12, Commission Regulation (EU) No 10/2011 of 14 January 2011, on plastic materials and articles intended to come into contact with food.
- Rules on the polymeric materials and articles intended to come into contact with foodstuffs (OJRS No. 65/2008, 22/010).

ENCLOSURE

Photography of the sample No. 11/11495



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VAT Number: SI30447046 Transactional Account Number: 01100-6030926630**SLOVENSKA
AKREDITACIJA**
SIST EN ISO/IEC 17025
LP-014Results, marked with #
refer to not accredited
activity.

TEST REPORT

Evidence code: 134-11/5614-11/11495-A

Place, date: Maribor, 04.11.2011

TaskTitle: ANALYSIS OF THE MATERIALS INTENDED TO COME INTO CONTACT WITH
FOOD

Responsible for: Alenka Labovič, B. Sc. Chem. Techn.

Customer: HIP-PETROHEMIJA, A.D., SPOLJNOSTARČEVAČKA 082, PANČEVO, SRBIJA

Order: Estimate No. 134-11/5614-11 25.08.2011

Sample

Number: 11/11495

Code: PENG 22003

Delivered by: by post

Taken by: Customer

Time of receipt:

31.08.2011 12:00

Department for analytical chemistry

Head:

Marjana Babič, B. Sc. in Chem. Eng.

Environmental Protection Institute

Principal:

M. Sc. Emil Žerjal, B. Sc. Chem. Techn.

Results

- Results refer to not accredited activity.

Parameter	Result Remark	Norm	Unit	Expressed as/on	Method	Start End
General parameters						
Surface	1,0		dm ²	#		
Volume	100		ml	#		
Overall migration into 3% acetic acid	<2,0	10	mg/dm ²		SIST EN 1186-3: 2002	06.09.2011 22.09.2011
Overall migration into 5% vol.% ethanol	<2,0	10	mg/dm ²	#	SIST EN 1186-3: 2002	06.09.2011 22.09.2011
Overall migration into 9% vol.% ethanol	13	10	mg/dm ²	#	SIST EN 1186-14: 2002	06.09.2011 22.09.2011
Overall migration into isooctane	18	10	mg/dm ²	#	SIST EN 1186-14: 2002	06.09.2011 22.09.2011
Total organic carbon - TOC	<0,5		mg/l	C	# ISO 8245: 1999	19.09.2011 19.09.2011

Evidence code: 134-11/5614-11/11495-A

Place, date: Maribor, 04.11.2011

Results

- Results refer to not accredited activity.

Parameter	Result Remark	Norm	Unit	Expressed as/on	Method	Start End
Elements						
Arsenic	<0,0010		mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Boron	<0,010	6	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Barium	<0,010	1	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Cobalt	<0,0050	0,05	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Copper	<0,010	5	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Iodine	<0,050	1	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Lithium	<0,010	0,6	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Antimony	<0,0050	0,04	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Selenium	<0,0010		mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Tin	<0,010	1,2	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Manganese	<0,0010		mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Nickel	<0,0010		mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Iron	<0,10	48	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Zinc	<0,10	25	mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011
Molybdenum	<0,0010		mg/l	#	ISO 17294-2, modif.: 2003	28.09.2011 28.09.2011

Commission Regulation (EU) No 10/2011, on plastic materials and articles intended to come into contact with food; Rules on the polymeric materials and articles intended to come into contact with foodstuffs (OJRS No. 65/2008, 22/010) Commission Directive 2002/72/EC (with amendments 2004/1, 2004/19, 2005/79, 2007/19, 2008/39, 975/2009, 2011/8).

Bold formatted results exceed norm, the measurement uncertainty data are not considered.
Measurement uncertainty data are available on the request of the client.

Results refer only to the tested sample. The test report shall not be reproduced except in full without written approval of the institute.
The sample was kept in accordance to the requirements until testing.
All additional information on testing is available at the institute.



Poročilo o preskušanju

Vzorec: **Izlužek v modelni raztopini - vzorec št. 11/11495**
 Naročnik: ZZV Inštitut za varstvo okolja Maribor, Prvomajska 1, 2000 Maribor
 Lastnik: ZZV Inštitut za varstvo okolja Maribor, Prvomajska 1, 2000 Maribor
 Sprema dok.: IVO MB - 16.09.11, Labovič
 Datum odvzema: 20.09.2011

Datum sprejema: 20.09.2011
 Preskušano do: 19.10.2011
 Namen: Kemijska analiza

Opis vzorca:

Raztopina v epruveti z nalepko: 11/11495, 3% očet.k. PAA.

Rezultati preskušanja

Parameter	Rezultat	Enota	Normativ	Vir normativa	Metoda	Merilna negot.
4,4'-oksidianilin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
4,4'-metilendianilin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
2-metoksianilin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
toluen-2,6-diamin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
toluen-2,4-diamin	<0.005	# mg/kg	-	(147)	174-l/interna metoda, verzija 4	
1,3-diaminobenzen	<0.0025	mg/kg	0,020	(147)	174-l/interna metoda, verzija 4	
o-toluidin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
anilin	<0.005	# mg/kg	-	(147)	174-l/interna metoda, verzija 4	
3,3'-dimetil-4,4'-diaminodifenilmetan	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
6-metoksi m-toluidin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	
p-kloroanilin	<0.0025	mg/kg	-	(147)	174-l/interna metoda, verzija 4	

Rezultati preskušanja

Parameter	Rezultat	Enota	Normativ	Vir normativa	Metoda	Merilna negot.
2,6-dimetil anilin	<0.005	#	mg/kg	-	(147)	174-I/interna metoda, verzija 4
2,4-dimetil anilin	<0.005	#	mg/kg	-	(147)	174-I/interna metoda, verzija 4
4,4'-tiodianilin	glej opombo	mg/kg	-	(147)	174-I/interna metoda, verzija 4	
4-aminobifenil	<0.0025	mg/kg	-	(147)	174-I/interna metoda, verzija 4	
2-naftilamin	<0.0025	mg/kg	-	(147)	174-I/interna metoda, verzija 4	
4-kloro-o-toluidin	<0.0025	mg/kg	-	(147)	174-I/interna metoda, verzija 4	
2,4,5-trimetil anilin	<0.0025	mg/kg	-	(147)	174-I/interna metoda, verzija 4	

- rezultati označeni z # se nanašajo na neakreditirano dejavnost
- poročana negotovost je razširjena negotovost, izračunana z upoštevanjem faktorja pokritja $k=2$, kar predstavlja 95% stopnjo zaupanja rezultata

Seznam virov normativa:

(147) Uredba KOMISIJE (ES) št. 10/2011 z dne 14. januarja 2011 o polimernih materialih in izdelkih, namenjenih za stik z živali

Opomba:

Mejna vrednost specifične migracije primarnih aromatskih aminov znaša 0.010 mg/kg in se nanaša na vsoto posameznih aromatskih aminov.

V vzorcu z metodo 174-I nismo določili aromatskih aminov.

Zaradi tehničnih težav v vzorcu nismo mogli določiti 4,4'-tiodianilina.

Koordinator laboratorija za predmete splošne uporabe:
mag. Viviana Golja, univ.dipl.kem.

Golja



Vodja oddelka:
dr. Stanislava Kirinčič, univ. dipl. inž. živ. tehnol.

[Signature]