Hygiene-Institut des Ruhrgebiets
Institut für Umwelthygiene und Toxikologie
Director: Dr. Thomas-Benjamin Seiler
Legal Entity: Verein des Hygiene-Instituts des Ruhrgebiets e.V.

Hygiene-Institut · PO Box 10 12 55 · DE 45812 Gelsenkirchen · Germany

LATI Industria Termoplastici S.p.A.
Mr. Cristiano Citterio
Via Francesco Baracca, 7
21040 VEDANO OLONA (VA)
ITALY

Address:
Rotthauser Str. 21, DE 45879 Gelsenkirchen

Switchboard	+49 (0)209 9242-0
Direct	+49 (0)209 9242-230
Telefax	+49 (0)209 9242-222
E-Mail	c.schell@hyg.de
Internet	www.hyg.de

Our reference: W-376599ea-23-Sl/Men
Contact person: Mrs. Dr. Ch. Schell

Gelsenkirchen, 30.11.2023

Test of various materials pursuant to EN 16421: 2014-12, Method 2

Your order dated 01.03.2023 / PO: 1022001918 / Mr. Cristiano Citterio

Dear Mr. Citterio,

please find enclosed the test reports and the accompanying cover letters for the following materials:

- **LATENE AG30H G/30 NAT. F:0023 / W-376599e-23-Sl/Men**
- **LATIGLOSS 66 H2 G/50 NAT.:0003F2 / W-376600e-23-Sl/Men**
- **LATIGLOSS 66 H2 G/50 BLACK:3352F2 / W-376601e-23-Sl/Men**

Attached is also the appropriate invoice.

Best regards
The Director of the Institute
p.p.

J. Albrecht M. Sc.
Assistant Head of Department Microbiological Material and Hygiene Testings

Enclosure

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Our reference: W-376599e-23-Sl/Men
Contact person: Mrs. Dr. Schell

Gelsenkirchen, 25.07.2023

TEST REPORT

Test pursuant to EN 16421: 2014-12, Influence of materials on water for human consumption, Method 2 – Measured by biofilm volume

Client: LATI Industria Termoplastici S.p.A.
Via Francesco Baracca, 7
21040 VEDANO OLONA (VA)
ITALY

Ordering date: 01.03.2023

Description of the material:

Test material:	**LATENE AG30H G/30 NAT. F:0023**
Composition:	recipe submitted and checked (11348)
Processing instructions:	for specifications, consult the client
Field of application:	for specifications, consult the client
Quantity of material per area unit:	for specifications, consult the client

Test samples:

Nature and property:	36 pcs. of hard plastic discs, cloudy white, D: 10 cm
Manufacturing:	description submitted by the client [Lot: 124776]
Processing conditions:	description submitted by the client
Production Place:	description submitted by the client

This test report consists of 3 pages

Date of receipt of test samples:	08.03.2023
Condition at reception:	together in plastic bags
Storing conditions in the testing lab:	at room temperature, dark, dry

Test conditions:

The tests were performed in accordance with the requirements contained in EN 16421: 2014-12, Method 2. Details regarding testing procedures, as well as testing conditions will be given in said Standard. The surface of the examined test pieces totals to 940 cm^2 each. Using twelve test items per test period the following test scheme was applied:

- monthly sampling of surface biomass (test period 3 months altogether)
- sampling after 2 months (test period 2 months altogether)
- sampling after 3 months (test period 3 months altogether)

Prior to testing, the test specimens were placed in running tap water for 20 hours, followed by a disinfection procedure using 1% chlorine bleach for (30 ± 5) minutes and then rinsed with drinking water.

Time of exposure:

1-month samples	**1a:**	1st	test period from 26.04.2023 to 24.05.2023
	1b:	2nd	test period from 24.05.2023 to 20.06.2023
	1c:	3rd	test period from 20.06.2023 to 18.07.2023
2-month samples	**2a:**	1st	test period from 26.04.2023 to 20.06.2023
3-month samples	**3a:**	1st	test period from 26.04.2023 to 18.07.2023

The exposure took place in containers filled with ground water of drinking water quality at a continuous flow rate of approx. 20 l/h over a period of three months. The water temperature ranged from 11.2°C to 13.5°C.
After one, two and three months the surfaces of the test pieces, as well as the corresponding negative reference samples (stainless steel) and positive reference samples (paraffin) were scraped clean in order to examine for biofilm formation. Afterwards, the surface biomass was transferred to suitable centrifuge tubes. The subsequent centrifugation was carried out at 3.000 x g for 10 minutes followed by the determination of the volume of the sediment.

Special observations / deviations:

None

Test results:

The positive reference sample (pK) showed a pronounced formation of biofilm during all test periods. There was no formation of surface biomass on the negative reference sample (nK).
The results of the analyses of the single specimens of 940 cm^2 surface in total, pursuant to EN 16421: 2014-12, Method 2 were as follows:

Volume of surface biomass

(single values and arithmetic mean of 12 test pieces, given in ml / referring to 800 cm^2)

Start of test: 26.04.2023		1-month values		2-month values		3-month values
26.04.2023 – 24.05.2023	1a	(< 0.01/< 0.01)				
		-				
	nK	< 0.01	2a	(< 0.01/< 0.01)		
	pK	≥ 1.5		-		
24.05.2023 – 20.06.2023	1b	(< 0.01/< 0.01)	nK	< 0.01	3a	(< 0.01/< 0.01)
		-	pK	≥ 1.5		-
	nK	< 0.01			nK	< 0.01
	pK	≥ 1.5			pK	≥ 1.5
20.06.2023 – 18.07.2023	1c	(< 0.01/< 0.01)				
		-				
	nK	< 0.01				
	pK	≥ 1.5				

Limiting values [ml / 800 cm^2] pursuant to KTW-BWGL (as of 7 March 2022)

General application:	≤ (0.05 + 0.02)	≤ (0.05 + 0.02)	≤ (0.05 + 0.02)
Negative Control:	< 0.01 ml	< 0.01 ml	< 0.01 ml
Positive Control:	≥ 1.5 ml	≥ 1.5 ml	≥ 1.5 ml

The Director of the Institute
p.p.

J. Albrecht M. Sc.
Assistant Head of Department Microbiological Material and Hygiene Testings

HYGIENE-INSTITUT DES RUHRGEBIETS Institut für Umwelthygiene und Toxikologie

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Our reference: W-376599ean-23-SI/Men
Contact person: Mrs. Dr. Ch. Schell

Gelsenkirchen, 25.07.2023

Test for hygienic suitability in contact with drinking water pursuant to EN 16421: 2014-12, Method 2

Your order dated 01.03.2023

Dear Madam/Sir,

please find enclosed the test report **W-376599e-23-SI/Men** for the material **LATENE AG30H G/30 NAT. F:0023.**

The composition check of the above-mentioned product was carried out in accordance with the requirements of Chapter 5.2 of the KTW evaluation criteria (KTW-BWGL).

From microbiological point of view the material mentioned above fulfills the requirements pertaining to the enhancement of microbial growth pursuant to KTW-BWGL (EN 16421: 2014-12, Method 2, Measured by biofilm volume).
The composition requirements are met.

Evidence that the other requirements of the KTW evaluation criteria (as of 2022-03) are met can be verified by an examination in accordance with the requirements of the KTW-BWGL.

This letter does not represent a certification in terms of the recommendation for conformity attestation of product hygiene suitability for drinking water of the Federal Environmental Agency. The test results and assessments refer exclusively to the test item.

Best regards
The Director of the Institute
p.p.
J. Albrecht

J. Albrecht M. Sc.
Assistant Head of Department Microbiological Material and Hygiene Testings

Enclosure: test report