

Test report PB2025001865
Project number ^{a)}: P000478554
Sample-no: 122500592-0001

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Die Akkreditierung gilt für die in der Urkundenanlage
D-PL-11217-03-00 aufgeführten Prüfverfahren.

Test report PB2025001865

Client: Plastitalia S.p.A
Date: 4 Jul 2025
Purpose of test: Examination of material according to KTW-BWGL (23 August 2024)
Certificate number ^{a)}: KIWA-23-DW-10361-1
Material ^{a)}: Borealis BorSafe HE3490-LS-H
Sample was taken by ^{a)}: Giuseppe Mondello (Kiwa)
Date of sample receipt: 3 Jun 2025
Date of analysis: 3 Jun 2025 to 4 Jul 2025
Place of testing: Kiwa GmbH Produktprüfung
18059 Rostock, Tannenweg 22 m
This report was created by: Elena Samolov

The test results relate only on the items tested. Without the written approval of the testing laboratory, a duplication in extracts of the test report is not permitted.

^{a)} information of the client. ^{k)} amendment.

Geschäftsführer: Andreas Müller, Dr. Gero Schönwaßer
Amtsgericht Hamburg, HRB 130568, St.Nr.: 46/736/03268

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1 Examined product

Trade name ^{a)}: PE100 fittings, Cap d.40, black
Base material: Borealis BorSafe HE3490-LS-H
Manufacturer ^{a)}: Plastitalia S.p.A.
Production location ^{a)}: IT-98061 Brolo, Italy
Intended use of the product: Drinking water distribution
Sampling from: Storage
Production date ^{a)}: Apr 2025
Lot / Batch number ^{a)}: Compound batch: 20B90104
Sampling date ^{a)}: 20 May 2025
Date of sample receipt: 3 Jun 2025

Material photograph:



Certificate number ^{a)}: KIWA-23-DW-10361-1
Inspector ^{a)}: Giuseppe Mondello (Kiwa)

2 Recipe evaluation

The recipe evaluation does not form part of this test report. The recipe is registered under R20716.

3 Result of the testing

3.1 Basic, material and formulation specific requirements

The conditions of the performed migration tests, the (raw) data of the migration water and information concerning the applied methods of analysis are laid down and in accordance with several relevant European standards described in detail in annex 1 of this test report.

The test conditions and final results of all tests are summarized and presented in Table 1.

Table 1: The test conditions and final test results at 23°C

| Parameter | Migration test | Method of analysis | Results of the 3 rd migration period | Threshold value (migration at 23°C) |
|------------------------------|-------------------------|----------------------------------|---|--|
| Threshold Odour Number (TON) | DIN EN 1420: 2016-05 | DIN EN 1622: 2006-10 | <2 TON | ≤ 2 TON |
| Turbidity | DIN EN 1420: 2016-05 | DIN EN ISO 7027-1 (C21): 2016-11 | <0,1 FNU | ≤ 0,5 FNU |
| Colour (410 nm) | DIN EN 1420: 2016-05 | DIN EN ISO 7887 (C 1): 2012-04 | <2 mg/l Pt | ≤ 10 mg/l Pt |
| Foaming | DIN EN 1420: 2016-05 | visually | nsa | nsa |
| Parameter | Migration test | Method of analysis | C _{Tap} conversion factor = 2 | MTC _{tap} (migration at 23°C) |
| Total Organic Carbon (TOC) | DIN EN 12873-1: 2014-09 | DIN EN 1484: 2019-04 | <0,027 mg/l | 0,5 mg/l |

nsa = not significantly affected

Opinions and Interpretations:

The examined sample submitted for testing by Plastitalia S.p.A manufactured from Borealis BorSafe HE3490-LS-H meets the Basic requirements mentioned in point 5.3.2 to 5.3.5 of the KTW-BWGL of the UBA (23 August 2024) for product group 'Ancillaries (P1)' at 23°C.

3.2 Requirements for the testing of the growth of microorganisms

The enhancement of microbial growth acc. DIN EN 16421 (method B) was not tested by Kiwa GmbH and is not part of the hygienic assessment.

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Annex 1: Information about the migration tests, the (raw) data and the applied methods of analysis

Table 2: Conditions of the migration tests at 23°C

| Aspect | Information concerning the samples | | | | Dates concerning the migration tests | | | | | | |
|-----------------------------|---|----------------------------|--|-------------------------------|--------------------------------------|----------------------------------|------------|----------------------------------|------------|----------------------------------|------------|
| | Number of test pieces used together in the Migration test | Surface (dm ²) | Volume of migration water (dm ³) | S/V ratio (dm ⁻¹) | Pretreatment of 24 h | 1 st migration period | | 2 nd migration period | | 3 rd migration period | |
| | | | | | | Start | Completion | Start | Completion | Start | Completion |
| Organoleptic ¹⁾ | each one piece | 1,55 | 1,03 | 1,5 | 16/06/25 - 17/06/25 | 17/06/25 | 20/06/25 | 20/06/25 | 23/06/25 | 23/06/25 | 26/06/25 |
| Toxicological ²⁾ | each one piece | 1,55 | 0,310 | 5 | 16/06/25 - 17/06/25 | 17/06/25 | 20/06/25 | 20/06/25 | 23/06/25 | 23/06/25 | 26/06/25 |

Procedural blanks: Glass was used as blank sample.

1) Organoleptic = Threshold Odour Number (TON), Turbidity, Colour (410 nm), Foaming

2) Toxicological = Total Organic Carbon (TOC)

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Basic requirements

Table 3 Results of the analysis of the migration water (raw data) and the calculated migration rates or results of the periods at 23°C

| Organoleptic Parameter | Raw data | | | | | | Calculated migration rate or result | | | | |
|----------------------------------|----------------------------------|-----------------|----------------------------------|-----------------|----------------------------------|-----------------|-------------------------------------|------------------|-----------------|-----------------|---------|
| | 1 st migration period | | 2 nd migration period | | 3 rd migration period | | Unit | migration period | | | Unit |
| | blank water | migration water | blank water | migration water | blank water | migration water | | 1 st | 2 nd | 3 rd | |
| Threshold Odour Number (TON) A/B | <2/<2 | <2/<2 | <2/<2 | <2/<2 | <2/<2 | <2/<2 | TON | <2 | <2 | <2 | TON |
| Turbidity A/B | <0,1/<0,1 | <0,1/<0,1 | <0,1/<0,1 | <0,1/<0,1 | <0,1/<0,1 | <0,1/<0,1 | FNU | <0,1 | <0,1 | <0,1 | FNU |
| Colour (410 nm) A/B | <2/<2 | <2/<2 | <2/<2 | <2/<2 | <2/<2 | <2/<2 | mg/l Pt | <2 | <2 | <2 | mg/l Pt |
| Foaming A/B | nsa/nsa | nsa/nsa | nsa/nsa | nsa/nsa | nsa/nsa | nsa/nsa | - | nsa | nsa | nsa | - |

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Table 3a: Specialized table of test results (toxicological) at 23°C

| Parameter/ Parameter group | TOC | | | | | |
|---|----------------------------------|------------|----------------------------------|------------|----------------------------------|------------|
| | 1 st migration period | | 2 nd migration period | | 3 rd migration period | |
| a_n^T | <0,20 mg/l | 0,40 mg/l | <0,20 mg/l | <0,20 mg/l | <0,20 mg/l | <0,20 mg/l |
| \bar{a}_n^T | 0,25 mg/l | | <0,20 mg/l | | <0,20 mg/l | |
| b_n^T | <0,20 mg/l | <0,20 mg/l | <0,20 mg/l | <0,20 mg/l | <0,20 mg/l | <0,20 mg/l |
| \bar{b}_n^T | <0,20 mg/l | | <0,20 mg/l | | <0,20 mg/l | |
| $\bar{c}_n^T = \bar{a}_n^T - \bar{b}_n^T$ | <0,20 mg/l | | <0,20 mg/l | | <0,20 mg/l | |
| $CTap_n^T$ | <0,027 mg/l | | <0,027 mg/l | | <0,027 mg/l | |

Conversion factor = 2

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Additional requirements

There are no additional requirements.

Material specific requirements for individual substances acc. point 5.4 of the KTW-BWGL of the UBA (7 March 2022)

There are no material specific requirements.

Formulation specific requirements for individual substances acc. point 5.5 of the KTW-BWGL of the UBA (7 March 2022)

There are no formulation specific requirements.

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Table 4 Information concerning the methods of analysis applied at the migration water

| Parameter | Pretreatment of the migration water | Migration test | Method of analysis | Detection limit | Intra laboratory reproducibility (%) | Location | Accreditation |
|------------------------------|-------------------------------------|-------------------------|----------------------------------|-----------------|---------------------------------------|----------|---------------|
| Threshold Odour Number (TON) | dilution | DIN EN 1420: 2016-05 | DIN EN 1622: 2006-10 | 2 TON | n.a. | 12 | yes |
| Turbidity | no | DIN EN 1420: 2016-05 | DIN EN ISO 7027-1 (C21): 2016-11 | 0,1 FNU | 0,54 (concentration level: 20 FNU) | 12 | yes |
| Colour (410 nm) | no | DIN EN 1420: 2016-05 | DIN EN ISO 7887 (C 1): 2012-04 | 2 mg/l Pt | 3,1 (concentration level: 11 mg/l Pt) | 12 | yes |
| Foaming | no | DIN EN 1420: 2016-05 | visually | - | n.a. | 12 | yes |
| Total Organic Carbon (TOC) | acidify | DIN EN 12873-1: 2014-09 | DIN EN 1484: 2019-04 | 0,2 mg/l | 2,7 (concentration level: 2,2 mg/l) | 12 | yes |

n.a. not applicable

Locations of Analysis:

12 Rostock

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Annex 2: Explanation of the terms

| | |
|---------------|---|
| a_n^T | measured concentration of a substance in migration water, mg/l or $\mu\text{g/l}$ |
| b_n^T | measured concentration of a substance in blank water, mg/l or $\mu\text{g/l}$ |
| \bar{c}_n^T | measured concentration of a substance, mg/l or $\mu\text{g/l}$ |
| $CTap_n^T$ | Maximum expected concentration of a migrating substance on the tap, mg/l |
| n | number of the migration period |

- End of test report -