Unit 30 | Fern Close | Pen-Y-Fan Ind Est | Oakdale | Gwent | NP11 3EH | UK
Tel: +44 (0) 1495 236260 wales@nsf.org | www.nsf.org

# TEST REPORT

**Customer: C0818213**

Vialli GmbH
Terminalstrasse Mitte 18
Munich, Bayern
85356
Germany

## Revised Report

| | |
|---|---|
| **Result** | This product has satisfied the criteria set out in BS 6920: Part 1: 2014 "Specification" and thus is suitable for use with hot (up to 85°C) and cold water. |
| Customer Name | Vialli GmbH |
| Product | VIALLI-De SDR 6 PPR pipe |
| Test Undertaken | BS 6920: 2014 - Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water |
| Job Number | J-00471176 |
| Work Order Number | W0918684 |

**Thank you for having your product tested by NSF Wales Ltd.**

Please contact your Account Manager if you have any questions or concerns pertaining to this report.

**Report Date** 07-JUN-2024

Original issue date: 08-MAR-2024

**Report Authorisation**

Angelo Iannetelli - Specialist II Labs Wales

UKAS TESTING
0626

## Result Summary Section

| Test | Result |
|---|---|
| Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 23°C | Pass |
| Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 85°C | Pass |
| Appearance of Water BS 6920: Part 1: 2014, Clause 5 | Pass |
| Growth of Microorganisms BS 6920: Part 1: 2014, Clause 6 | Pass |
| Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 23°C | Pass |
| Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 85°C | Pass |
| Extraction of Metals BS 6920: Part 1: 2014, Clause 8 - 85°C | Pass |

## Sample Details

| | |
|---|---|
| Date of Receipt of Application Form | 19/09/2023 |
| Date of Receipt of Product for Test | 23/10/2023 |
| Product * | VIALLI-De SDR 6 PPR pipe |
| Nature of Material * | PPR |
| Date Test Sample Manufactured * | 13/04/2023 |
| Batch Number * | 13-04-2023 |
| Receipt Conditions | Good Condition |
| Receipt Packaging | Cardboard box |
| Product Manufacturer * | Vialli Gmbh |
| Product Manufacturing Site * | Germany |
| Tradename and Reference of Product * | VIALLI-De SDR 6 PPR pipe |
| Method of Manufacture * | Extruded |
| Typical Use of the Product * | Component in contact with potable water |
| Nature of Product * | Pipe |
| Sampling Procedure * | Random |
| Address of Product Manufacturer * | Terminalstrasse Mitte 18, Munich, Bayern, 85356 |
| Submitting Organization * | Vialli Gmbh |

* denotes customer supplied information

## Sample Preparation

| | |
|---|---|
| Description/Appearance of the product | Green, opaque, rigid pipe |
| Length | 500 mm |
| Inner diameter | 16.2 mm |
| Outer diameter | 25.2 mm |
| Surface area of one article | 65616.2 mm2 |
| Number of articles constituting a sample | 0.23 |
| Surface area for test | 15022.2 mm2 |
| Calibration mark of test container | 1 L |
| Storage Conditions | As in BS 6920: Part 2: Section 2.1: Clause 5.2 |

***Job Attachments:***

Photo 1

## Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 23°C

**Methodology:** BS 6920: Part 2: Section 2.2 and in-house method PROC/MAT 004 and 006.

Date Leaching Test Started: 21-FEB-2024

### *First Extract - Chlorinated Test Water*

| Panellist | Odour Descriptor | Flavour Descriptor | Flavour Dilution Number |
|---|---|---|---|
| **1** | None | None | 1 |
| **2** | None | None | 1 |
| **3** | None | None | 1 |

### *First Extract - Chlorine Free Test Water*

| Panellist | Odour Descriptor | Flavour Descriptor | Flavour Dilution Number |
|---|---|---|---|
| **1** | None | None | 1 |
| **2** | None | None | 1 |
| **3** | None | None | 1 |

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 4.**

## Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 85°C

**Methodology:** BS 6920: Part 2: Section 2.2 and in-house method PROC/MAT 004 and 006.

Date Leaching Test Started: 21-FEB-2024

### *First Extract - Chlorinated Test Water*

| Panellist | Odour Descriptor | Flavour Descriptor | Flavour Dilution Number |
|---|---|---|---|
| **1** | None | None | 1 |
| **2** | None | None | 1 |
| **3** | None | None | 1 |

### *First Extract - Chlorine Free Test Water*

| Panellist | Odour Descriptor | Flavour Descriptor | Flavour Dilution Number |
|---|---|---|---|
| **1** | None | None | 1 |
| **2** | None | None | 1 |
| **3** | None | None | 1 |

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 4.**

## Appearance of Water BS 6920: Part 1: 2014, Clause 5 - 85°C

**Methodology:** BS 6920: Part 2: Section 2.3 and in-house methods PROC/MAT 004, PROC/MAT 027 (colour) and PROC/MAT 030 (turbidity).

Date Leaching Test Started: 30-JAN-2024

### *First Extract*

| Name | Blank | Extract | Test Sample Effect |
|---|---|---|---|
| **Colour (Hazen)** | <2 | <2 | <2 |
| **Turbidity (FNU)** | 0.117 | 0.126 | 0.009 |

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 5.**

## Growth of Microorganisms BS 6920: Part 1: 2014, Clause 6

**Methodology:** BS 6920: Part 2: Section 2.4 and in-house method PROC/MIC 001.

Date Test Started: 16-JAN-2024

Incubation temperature: (30 ±1) °C

Units: mg $L^{-1}O_2$

| Mean Dissolved Oxygen Difference | Day 49 |
|---|---|
| **Test Sample** | 0.3 |
| **Positive Reference (paraffin wax)** | 5.8 |
| **Negative Reference (glass)** | 0.5 |

| Mean Dissolved Oxygen | Day 49 |
|---|---|
| **Test Water Control** | 8.1 |

**Comments:** At the end of this test, the test sample showed no change in colour or appearance.

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 6.**

**Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 23°C**

**Methodology:** BS 6920: Part 2: Section 2.5 and in-house methods PROC/MAT 004 and PROC/MIC 004.

Date Leaching Test Started: 6-FEB-2024

Cell concentration used: $5 \times 10^{5}$

Cell morphology: Confluent growth of elongated cells, some round cells and cell debris. Media orange/pink in colour.

| Sample/Control | Cell Morphology | Response |
|---|---|---|
| **Test Sample** | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| **Blank** | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| **Negative Control** | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| **Positive Control** | All cells rounded and mainly still in suspension. Media pink in colour. | Cytotoxic |

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 7.**

**Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 85°C**

**Methodology:** BS 6920: Part 2: Section 2.5 and in-house methods PROC/MAT 004 and PROC/MIC 004.

Date Leaching Test Started: 30-JAN-2024

Cell concentration used: $5 \times 10^{5}$

Cell morphology: Confluent growth of elongated cells, some round cells and cell debris. Media orange/pink in colour.

| Sample/Control | Cell Morphology | Response |
|---|---|---|
| **Test Sample** | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| **Blank** | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| **Negative Control** | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| **Positive Control** | All cells rounded and mainly still in suspension. Media pink in colour. | Cytotoxic |

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 7.**

## Extraction of Metals BS 6920: Part 1: 2014, Clause 8 - 85°C

**Methodology:** BS 6920: Part 2: Section 2.6 and in-house methods PROC/MAT 006 (leachate preparation) and PROC/ING 003 (ICPMS analysis).

Date Leaching Tests Started: 4-MAR-2024

***First Extract***

| Metal (µg/L) | MAC (µg/L) | LOD (µg/L) | Blank (µg/L) | Sample 1 (µg/L) | Sample 2 (µg/L) |
|---|---|---|---|---|---|
| Aluminium | 200 | 20 | <20 | <20 | <20 |
| Antimony | 5 | 0.5 | <0.5 | <0.5 | <0.5 |
| Arsenic | 10 | 1 | <1 | <1 | <1 |
| Boron | 1000 | 100 | <100 | <100 | <100 |
| Cadmium | 5 | 0.5 | <0.5 | <0.5 | <0.5 |
| Chromium | 50 | 5 | <5 | <5 | <5 |
| Iron | 200 | 20 | <20 | <20 | <20 |
| Lead | 10 | 1 | <1 | <1 | <1 |
| Manganese | 50 | 5 | <5 | <5 | <5 |
| Mercury | 1 | 0.1 | <0.1 | <0.1 | <0.1 |
| Nickel | 20 | 2 | <2 | <2 | <2 |
| Selenium | 10 | 1 | <1 | <1 | <1 |

Analytical Method - ICPMS Inductively Coupled Plasma Mass Spectrometry
MAC - Maximum admissible concentration
LOD - Required limit of detection

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 8.**

***<< Testing Laboratories >>***

| | Flag | Id | Address |
|---|---|---|---|
| All work performed at: (Unless otherwise specified) | → | NSF_WALES | NSF Wales Ltd.<br>NSF Wales Ltd<br>Unit 30 Fern Close<br>Pen-Y-Fan Industrial Estate<br>Oakdale, Newport<br>NP11 3EH, UK |

***Job Notes:***

This report replaces previously issued report with serial# FI20240308090902. This report is being re-issued due to a correction in the client's name. This changes the overall status of the report.

## NOTES

1. This report is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS). NSF Wales Ltd is UKAS accredited against ISO/IEC 17025:2017 for testing, laboratory number 0626. For details of the laboratory Schedule of Accreditation please see the UKAS website (www.ukas.com).
2. The laboratory provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes.
3. Reported conformity statements have been applied in line with the decision rule inherent in the applicable testing standard.
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5. Opinions and interpretations in this report are outside the scope of UKAS Accreditation.
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