

## Overview

The test is suitable for the photometric determination of zirconium.

The test is suitable for wastewater and production water.

Results are highly reproducible in water with low levels of pollutants.

- Measuring range: 5 – 100 mg/L Zr
- Number of tests: 20
- Wavelength for photometric determination: 540 nm
- Shelf life: 36 months
- Storage temperature: 15 – 25 °C
- Storage conditions: upright

## Method

Zirconium ions form a red coloured complex with an indicator in an acidic environment.

## Interferences

The following contaminants do not interfere with the test up to the indicated concentrations. The cumulative effect of different interfering ions has not been tested.

- Data in mg/L:
- PO<sub>4</sub><sup>3-</sup>: 15
- Mg<sup>2+</sup>, Mn<sup>2+</sup>: 250
- NH<sub>4</sub><sup>+</sup>, F<sup>-</sup>, Cl<sup>-</sup>, Ca<sup>2+</sup>: 1000
- Zn<sup>2+</sup>, Fe<sup>2+</sup>, Fe<sup>3+</sup>, Al<sup>3+</sup>: 10000
- Oxidising substances interfere with the test.

The method can be applied for analyzing seawater.

Turbidities cause higher measurement values.

## Reagents and accessories

Contents of reagents set:

- 20 test tubes R0
- 1 NANOFIX R2

Required devices:

- MACHEREY-NAGEL photometer
- Digital piston pipette 50 – 200 µL (REF 916914) with pipette tips (REF 916915)
- Tweezers for sampling NANOFIX capsules (REF 916114)

## Sampling and preparation

See DIN EN ISO 5667-3-A21.

Adjust to pH 0 – 13 prior to analysis.

## Quality control

The measurement of a blank value and a standard is recommended before every measuring series as quality control measure.

LOT-specific certificates are available at [www.mn-net.com](http://www.mn-net.com).

## Procedure

1. Open test tube. Pipette 200 µL of sample into test tube
2. Add 1 NANOFIX R2
3. Seal test tube and shake vigorously
4. Wait 5 min
5. Clean outside of test tube
6. Measure

## Notes

Test a sample of distilled water (REF 918932) to generate a blank value for the reagent.

When using other photometers, make sure measurements are possible in test tubes (16 mm OD) and calibrate the method.

For coloured or turbid solutions it is necessary to determine a correction value.

The determination of total zirconium is performed after digestion with NANOCOLOR® NanOx metal (REF 918978).

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from [www.mn-net.com/SDS](http://www.mn-net.com/SDS).

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