Nickel L M256

0.2 - 7 mg/L Ni

Dimethylglyoxime

Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

Instrument Type	Cuvette	λ	Measuring Range
SpectroDirect, XD 7000, XD 7500	ø 24 mm	443 nm	0.2 - 7 mg/L Ni
MD 600, MD 610, MD 640, MultiDirect	ø 24 mm	430 nm	0.2 - 7 mg/L Ni

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Nickel Reagent Test	1 pc.	2419033

Application List

- Galvanization
- Raw Water Treatment
- Waste Water Treatment

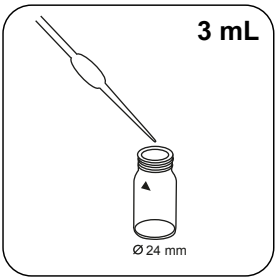
Preparation

1. The test sample and the reagents should be at room temperature when undertaking the test.
2. The pH value of the sample must be between 3 and 10.

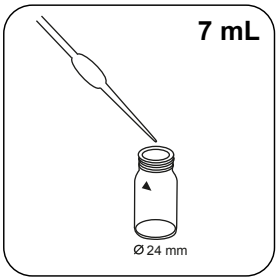
Determination of Nickel with Reagents test

Select the method on the device.

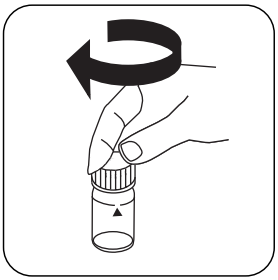
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



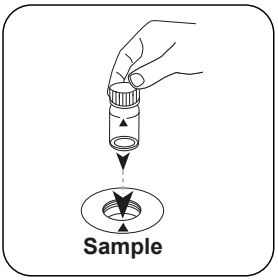
Put **3 mL sample** in the vial.



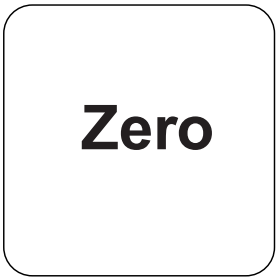
Fill 24 mm vial with **7 mL deionised water** .



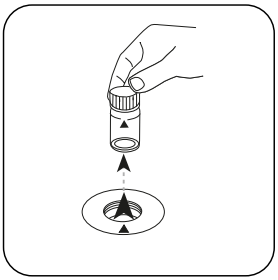
Close vial(s).



Place **sample vial** in the sample chamber. Pay attention to the positioning.

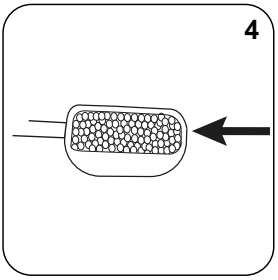


Press the **ZERO** button.

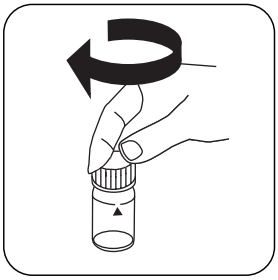


Remove the vial from the sample chamber.

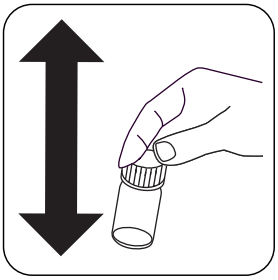
For devices that require **no ZERO measurement** , **start here**.



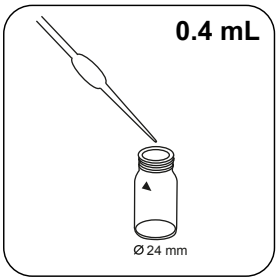
Add **4 level measuring scoop No. 8 (black) Nickel-51** .



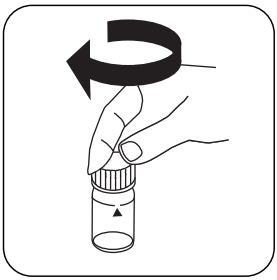
Close vial(s).



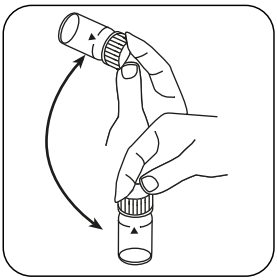
Mix the contents by shaking.



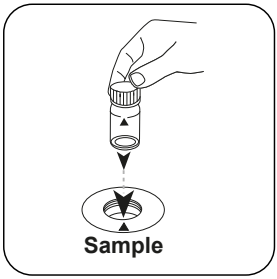
Add **0.4 mL Nickel-52**.



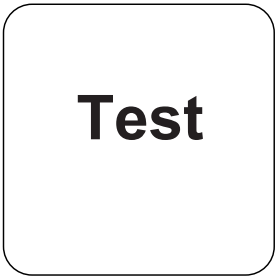
Close vial(s).



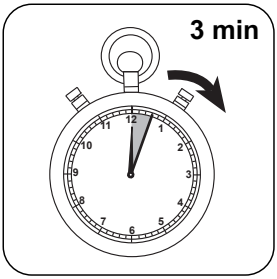
Invert several times to mix the contents.



Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **TEST** (XD: **START**)button.



Wait for **3 minute(s) reaction time**.

Once the reaction period is finished, the measurement takes place automatically.

The result in mg/L Nickel appears on the display.

Chemical Method

Dimethylglyoxime

Appendix

Calibration function for 3rd-party photometers

Conc. = a + b•Abs + c•Abs^2 + d•Abs^3 + e•Abs^4 + f•Abs^5

	ø 24 mm	□ **10 mm**
a	-1.53212 • 10^{-1}	-1.53212 • 10^{-1}
b	7.07103 • 10^{+0}	1.52027 • 10^{+1}
c		
d		
e		
f		

Interferences

Removeable Interferences

1. If large amounts of these metals should be present, nickel must be insulated before the test determination. The insulation is performed with a solution of Dimethylglyoxim in chloroform.
   Al, Co, Cu, Fe, Mn, Zn and phosphates do not pose an obstacle in biologically normal quantities. In most cases, the biological samples are first of all mineralised with a mixture of sulphuric acid and nitric acid.

Bibliography

Photometrische Analyseverfahren, Schwedt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1989