

Nickel

Test kit for performing colorimetric tests on nickel ions in surface water and sewage

Method:

In the presence of an oxidizing agent nickel ions react with dimethylglyoxime in an alkaline solution to form a reddish-brown complex.

Measurement range:

0.1–1.5 mg/L Ni²⁺

Contents of test kit (*refill pack):

sufficient for 150 tests

- 10 g Ni-1*
- 2 x 20 mL Ni-2*
- 1 measuring spoon 70 mm*
- 2 screw-plug measuring glasses
- 1 slide comparator
- 1 color chart
- 1 plastic syringe 5 mL
- 1 instructions for use*

Hazard warning:

Reagent Ni-1 contains ammonium peroxodisulfate 80–99 %, reagent Ni-2 contains sodium hydroxide solution 10–20 %.

H314, H317, H334 Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P260sh, P280sh, P303+361+353, P305+351+338, P310 Do not breathe dust/vapors. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. For further information ask for a safety data sheet.

Instructions for use:

also refer to the pictogram on the back of the color chart

1. Pour a **5 mL water sample** into each of the measuring glasses using the plastic syringe.
Place a measuring glass on position A in the comparator.

Only add the reagent to measuring glass B.

2. Add **1 measuring spoon of Ni-1**, seal the glass and dissolve by swirling.
3. Add **5 drops of Ni-2**, seal the glass and mix.
4. Open the glass after **1 min** and place it on position B in the comparator.
5. Slide the comparator until the colors match in the inspection hole on top. Check the measurement reading in the recess on the comparator reed. Mid-values can be estimated.
6. After use, rinse out both measuring glasses thoroughly and seal them.

The reagents can be used for the **photometric evaluation** with photometer PF-12 / PF-12^{Plus}.

The method can be applied also for the analysis of sea water after dilution (1+9).

Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

Interferences:

Complexed nickel is not detected by the measurement. It must be decomposed prior to determination.

The following ions do not interfere: $\leq 1 \text{ mg/L Mn}^{2+}$
 $\leq 5 \text{ mg/L Co}^{2+}, \text{Cu}^{2+}, \text{Fe}^{3+}$
 $\leq 10 \text{ mg/L Cr}^{3+}, \text{Zn}^{2+}$

Storage:

Store the test kit in a cool (< 25 °C) and dry place.