

NITRITE (NITRIPHOT)

Photometer Method

**AUTOMATIC
WAVELENGTH
SELECTION**

**TEST FOR NITRITE
IN COOLING WATER**

0 – 1500 mg/L NaNO₂

Nitrites and nitrite-based formulations are widely used for corrosion control in cooling water systems. The Palintest Nitriphot test provides a simple means of measuring nitrite for the control of such treatment products in cooling water. The test covers the range 0 – 1500 mg/L NaNO₂.

Method

The Palintest Nitriphot method is based on a colorimetric procedure using an iodide containing reagent system. Nitrites catalyse the oxidation of the iodide to iodine under mildly acid conditions to produce a brown coloration. Over the range of the test a series of colours from colourless through yellow to brown are produced.

The intensity of the colour produced in the test is proportional to the nitrite concentration and is measured using a Palintest Photometer.

Reagents and Equipment

Palintest Nitriphot No 1 Tablets
Palintest Nitriphot No 2 Tablets
Palintest Automatic Wavelength Selection Photometer
Round Test Tubes, 10 ml glass (PT 595)
Measuring Syringe, 1 ml (PT 361)

Test Procedure

- 1 Filter sample if necessary to obtain a clear solution.
- 2 Using the measuring syringe take 1 ml of the sample. Transfer to the test tube and make up to the 10 ml mark with deionised water.
- 3 Add one Nitriphot No 1 tablet, crush and mix to dissolve.
- 4 Add one Nitriphot No 2 tablet, crush vigorously and mix to dissolve. Cap immediately.
- 5 Stand for exactly two minutes to allow full colour development. Ignore any further colour development after this time.
- 6 Select Phot 43 on the Photometer.

- 7 Take Photometer reading in the usual manner (see Photometer instructions).
- 8 The result is displayed as mg/L NaNO₂.

Interferences

Chlorine in excess of 30 mg/L may give slight positive interference. However, nitrite and chlorine are incompatible and do not normally co-exist.

The solution should be cooled to below 30°C before testing for the most accurate analytical results.
