

Cat. No. 985 838



Test 8-38

03.01

NANOCOLOR® Ethanol 1000

Method:

Conversion of ethanol via catalytic oxidation using the enzyme alcohol oxidase. The hydrogen peroxide formed by this reaction is determined photometrically using the enzyme peroxidase and a specific indicator.

Range:	0.10 - 1.00 g/l ethanol
Factor:	00.71
Range:	0.013 - 0.13 vol.-% ethanol
Factor:	0.089
Wavelength (HW = 5-12 nm):	620 nm
Reaction time:	20 min
Reaction temperature:	25 °C

Contents of reagent set:

- 23 Test tubes Ethanol R0
- 2 Flasks with 60 ml reagent Ethanol R1 each
- 1 Magnetic card
- 1 Flask with 6 ml reagent Ethanol R2
- 1 Flask with 10 ml reagent Ethanol R3

Safety precautions:

This tube test contains no dangerous goods.

Preparation of samples:

Turbid samples must be filtered before analysis (*NANOCOLOR®* Membrane Filtration Set, Cat. No. 916 50). Samples containing carbon dioxide must be degassed by stirring for 1 minute prior to analysis. The pH-value of the sample must be in the range from pH 2 to pH 6. If necessary, the pH-value must be adjusted by using 1 N NaOH or 1 N HCl.

Sample dilution:

If the expected alcohol concentration is **higher than 1.0 g/l ethanol or 0.13 vol.-% ethanol**, preliminary dilution of the sample is necessary.

This is done by first filling approx. 50 ml distilled or deionised water in a 100 ml volumetric flask. Then add the volume of sample specified in the dilution table for the expected ethanol concentration. Finally the volumetric flask is filled up to 100 ml with distilled or deionised water. Samples with an expected alcohol concentration of less than 1.00 g/l ethanol (0.130 vol.-% ethanol) should not be diluted for testing.

DILUTION-TABLE

Expected ethanol concentration in [g/l]	Expected ethanol concentration in vol.-%	Dilution of the sample	Quantity of sample to be added [ml]
1.0 - 10.0	0.13 - 1.26	1 : 10	10
10.0 - 100.0	1.26 - 12.6	1 : 100	1
100.0 - 500.0	12.6 - 63.0	1 : 500	0.2

Procedure:

Requisite accessories: piston pipette with tips, water bath or incubator (Cat. No. 951 001)

Remark: Remove only as many test tubes with freeze-dried reagent Ethanol R0 as are required from the freezer immediately before use!

Test sample

4.0 ml Open test tube and add reagent **Ethanol R1** and

0.5 ml **test sample** or diluted test sample, close and mix. Incubate in a water bath or incubator **exactly for 20 min at 25 °C.***

100 µl Open test tube and add reagent **Ethanol R2**, close and mix. Wait 1 min.

2 drops Open test tube and add reagent **Ethanol R3**, close and mix. Wait 10 min. Clean outside of test tube.

* An incubation is also possible at room temperature. But depending on the temperature, variations in the obtained results are then to be expected.

Measurement (see manual, test 8-38):

Photometer 300 D / 250 D: Call up method **8-38** by using the **magnetic card!**

Photometer Linus / 400 D: Call up method **8-38**. If you are asked for entering a lot factor CF, please enter the CF-value printed on the label of this test kit. If no request for entering a lot factor is displayed, then perform measurement and multiply the result with the CF-value printed on the label of this test kit.

Filter Photometer PF-11: Call up method **38**. Start with measuring the **blank value**. After that measure the samples.

Photometers of other manufacturers:

For other photometers check whether measurement of round glass tubes is possible. Verify factor for each type of instrument.

Storage:

Box A of the tube test must be **stored icy-cold at < 0 °C !** **Box B** is to be stored in a refrigerator at **+2 °C to +8 °C**. Please pay attention to the expiry date. The reagents Ethanol R1 to R3 must be adjusted to room temperature prior to carrying out analysis. We recommend removing Box B containing the additive reagents from the refrigerator in good time prior to use. Gently mix reagent Ethanol R1 before use. Test tubes with reagent Ethanol R0 stored at < 0 °C can be used for analysis immediately after removal from the freezer.

Interferences:

Strong oxidizing agents and lower primary alcohols like methanol, propanol and butanol may lead to false, excessively high results.

MACHEREY-NAGEL GmbH & Co. KG · P.O. Box 10 13 52 · D-52313 Dueren (Germany)

Phone +49 24 21 9 69-0 · Fax +49 24 21 9 69-199 · E-Mail: sales@macherey-nagel.de

USA: MACHEREY-NAGEL Inc. · 6 South Third St., Suite 402 · Easton, PA 18042

Phone 610 559 9848 · Fax 610 559 9878