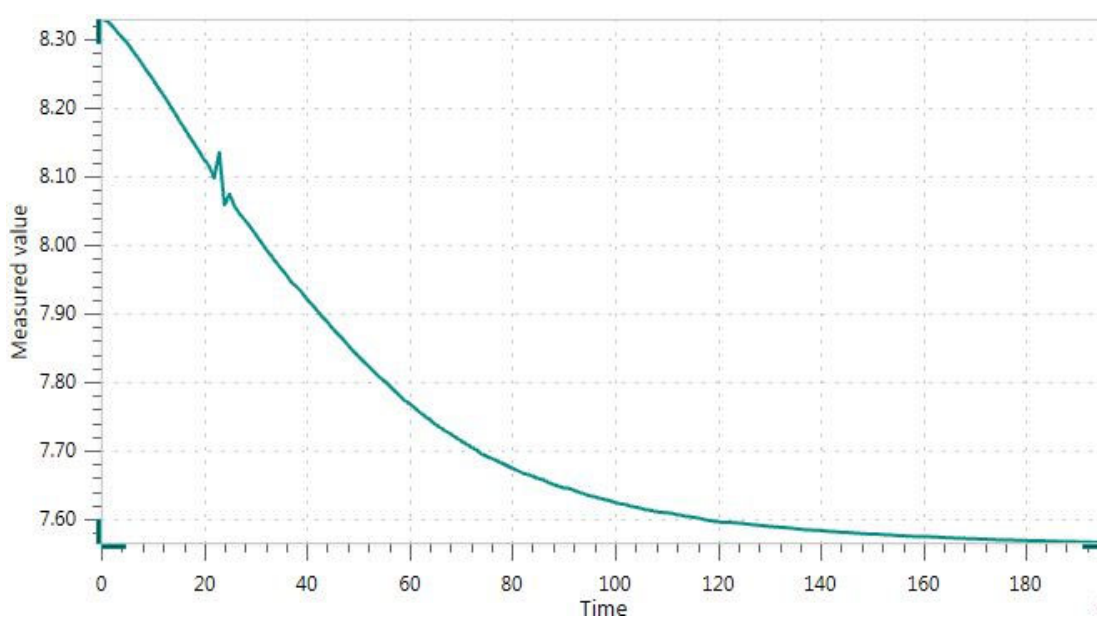


# Ethanol as blending component for petrol – Determination of pHe according to EN 15490



The pHe value is an indicator for the acid strength and shows the presence of strong acids or bases in ethanol. In Europe, ethanol is used as a blend for gasoline and needs to have a pHe value between 6.5 and 9.0.

This Application Note describes a fast and accurate determination of the pHe value using the EtOH-Trode.

# Method description

## Samples

Bioethanol

## Sample preparation

The sample is tempered to 22 °C.

## Configuration

OMNIS Basic Titrator with stirrer	2.1001.0120
Analog measuring module	6.02101.010
Lauda RE 304 circulation thermostat bath	-
Lauda E 300 immersion thermostat	-
Water bath for Robotic Sample Processor and Robotic Titrosampler	6.2840.000
Titration vessel lid with 5 openings	6.1414.010
Titration vessel / 10-90 mL	6.1415.210
Electrode cable plug-in head G / plug P, 0.55 m	6.02104.000
Electrode cable plug-in head G (temp.) / plug P, 0.55 m	6.02104.020
Stirring bar / 30 mm	6.1903.060
OMNIS Stand-alone license (including one instrument license)	6.06003.010
EtOH-Trode, Inner electrolyte: c(KCl) = 3 mol/L, bridge electrolyte: c(LiCl) = 1 mol/L in 99% ethanol (v/v)	6.0269.100
Pt1000 temperature sensor	6.1110.100

## Analysis

Approximately 60 mL sample is added into the sample beaker including a stirring bar. The sample beaker is covered with a including the electrodes.

While stirring, the pHe is measured until the drift criterion is met.

## Parameters

Mode	MEAS pH
Stirring rate	8
Signal drift	0.5 mV/min
Min. waiting time	0 s
Max. waiting time	240 s
Meas. interval	1.0 s

## Results

pHe mean value (n = 10)	7.56
s(abs)	0.02
s(rel) / %	0.22