Alcohol
(ADH-UV-Test)

Cat.No	Package Size
104 000	4 x 10 ml R1 / 4 x10 ml R2 / Standard
104 001	1 x 50 ml R1 / 1 x 50 ml R2 / Standard

METHOD
Enzymatic UV, Kinetic.

PRINCIPLE
Kinetic determination of ethanol, based on the ADH-reaction :
Alcohol is oxidized to Acetaldehyde, while NAD^+ is reduced to NADH. The increase of absorbance of NADH is a measure for the concentration of ethanol .

REAGENTS
Reagents Composition (concentrations in the test):
R1 (Buffer) TRIS-Buffer (pH 8.7) 200 µmol/L

R2 (Enzyme Reagent)
Alkoholdehydrogenase 140 U/L
NAD^+ 1500 µmol/L
Phosphate-Buffer (pH 7.1)

Standard:
Ethanol (see label of the standard vial)

Precautions
- For *in vitro* diagnostic use only.
- Use reagents only until the expiration date as printed on each vial label. Do not use expired reagents.
- Close each vial with its cap after use.
- Reagents contain sodium azide (0,95 g/L) as preservative. Do not swallow, and avoid contact with skin and/or mucous membranes.

Stability
When stored at 2-8° C and protected from light, the reagents are stable until the expiry date printed on the label.

Preparation and Stability of Working Reagents
R1 and R2 are ready for use
Stability after opening :
3 months at 2 - 8°C, when contamination is strictly avoided

SAMPLES
Serum free of hemolysis, heparinized or EDTA plasma, fresh urine
Stability at 2-8°c is minimum 5 days
Note: Ethanol is very volatile, therefore samples, calibrators and controls should be stored well capped and under strict refrigeration.

PROCEDURE
The reagent can be used manually (see method below) and on most analyzers. Applications are available on request.

Wavelength : 340 nm
Temperature : 37° C
Cuvette : 1 cm light path
Measure against water (increasing absorbance A)

	STANDARD	SAMPLE
Standard	30 µL	-
Sample	-	30 µL
Reagent R1	250 µL	250 µL
Mix, incubate for 1 min, read A_1		
Reagent R2	250µL	250µL
Mix and incubate, after exactly 3 min read A_2		

Then calculate
$\Delta A = (A_2 - A_1)$ of Sample or Standard

CALCULATION

$$Alcohol\ [mg/dL] = \frac{\Delta A\ Sample}{\Delta A\ Std\ /\ Cal} \times conc.\ Std\ /\ Cal\ [mg/dL]$$

Note: You may also use a fixed factor :
Calculate once

$$F = Concentration_{Standard} / \Delta A_{standard}$$

QUALITY CONTROL
For quality control use Greiner's special Alcohol control .

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