



PHOSPHORUS INORGANIC

UV Phosphomolybdate Method

Cat.No. 101-0458

Size 2 x 100 ml

PRINCIPLE:

The inorganic phosphorus is measured according to the following reaction:



————→ phospho - inorganic molybdate complex

The complex absorption is maximal in ultraviolet and its formation is followed at 340 nm.

SAMPLE:

Serum or heparinized plasma

REAGENTS:

- Reagent 1 (2 x 100ml)
Sulfuric acid 210 mmol
Ammonium molybdate 0.40 mmol
Detergent
- Standard
Phosphorus
Standard concentration see on the vial label

All reagents are stable up to the expiry date when stored at +2 °C to +8 °C.

PREPARATION OF REAGENTS:

The reagent is ready to use.

PROCEDURE

Wavelength: 340 nm
Cuvette: 1 cm light path
Temperature: 25 / 25 / 37 °C
Zero: reagent blank

Pipette into tubes	Blank	Standard	Sample
Standard	-	10 µl	-
Sample	-	-	10 µl
Working reagent	1000 µl	1000 µl	1000 µl
Mix and incubate 5 min. at 25/30 or 37 °C			
Measure the extinction at 340 nm, against blank.			

CALCULATION:

$$\frac{A_{\text{sample}}}{A_{\text{standard}}} \times \text{stand.conc.} = \text{mmol/L}$$

EXPECTED VALUES:

Woman:	0.48 – 2.19 mmol/L (1.5 – 6.8 mg/dL)
Men:	0.68 - 1.80 mmol/L (2.1 - 5.6 mg/dL)
Children	1.29 - 2.26 mmol/L (4.0 - 7.0 mg/dL)

LINEARITY:

up to 4.84 mmol/L (15.0 mg/dl)

QUALITY CONTROL:

CONTRO-N 20 x 5 ml Cat. No. 101-0083
CONTRO-P 20 x 5 ml Cat. No. 101-0084

NOTES:

- The serum must immediately be separated from the cells, because phosphates from erythrocytes can cause high results.
- As inorganic phosphate is a widely ion, essential precautions must be taken against accidental contamination, possibly using disposable materials.
- Strong lipemic and hemolytic sera should not be used.
- If the phosphorus concentration in the serum > 4.85 mmol/L, dilute sample 1:2 with saline solution and repeat the assay (result x 2).

REFERENCES:

- Daly J.A., Erthinghsausen G., Clin. Chem. 18, 263 (1972).