

# PHOSPHORUS

Colorimetric Method

50 Tests

## PRINCIPLE :

Inorganic phosphorus present in serum as phosphate forms a phosphomolybdate complex with molybdic acid. The complex is reduced by stannous chloride to a blue color which can be measured colorimetrically. Formic acid used as protein solubilizer and glycerol as stabilizer for assay system .

## SAMPLES :

Serum or plasma . Hemolysis will interfere.  
Urine (dil.10 times)

## NORMAL VALUES :

Plasma or serum

Adult : 2.5 – 5 mg / dL (0.80 – 1.61 mmol/L).

Children : 4 – 7 mg / dL (1.28 – 2.25 mmol/L).

Urine : 0.35 – 1.0 g (11.2 – 32 mmol/L) / day .

## REAGENTS :

1.	Standard	4 mg/dl 1.288 mmol/L
2.	Color Reagent Formic acid Glycerol Ammonium molybdate	2 mol/L 0.6 mol/L 0.32 mmol/L
3.	Reducing agent Stannous chloride	2 mmol/L

## STABILITY :

The reagents are stable up to the expiry date specified when stored at +15 to +25 °C .

## PROCEDURE :

Dilute reagent 3, 100 times immediately before use (0.1 ml + 10.0 ml dist water) . Pipette into test tubes (PHOSPHORUS – FREE) :

	Blank (ml)	Standard (ml)	Sample (ml)
Standard	-	0.025	-
Sample	-	-	0.025
Reagent 2	1.0	1.0	1.0
Mix, then add :			
Reagent 3 (diluted)	0.1	0.1	0.1

Mix. let stand for 10 min. at 37°C . Read the absorbances of sample (  $A_{\text{Sample}}$  ) and standard (  $A_{\text{Standard}}$  ) against the blank at 640 nm. ( 630 – 650. nm. ) . Color stable for one hour . Linearity up to 15 mg / dL .

## CALCULATION :

Phosphorus Concentration in Serum or plasma

$$= \frac{A_{\text{Sample}}}{A_{\text{Standard}}} \times \text{Standard Conc.}$$

**N.B.** in case of urine multiply result by 10 ( dil.factor )

## REFERENCE :

EI-Merzabani.M.M.; EI- Aaser. A.A. and Zakhary, N.I. (1977) . J. Clin. Chem. Clin. Biochem. 15 : 715 – 718 .

## QUALITY CONTROL :

For accuracy and reproducibility control:-  
Assayed Multi – Sera, Normal and Elevated

## PHOSPHORUS

**Colorimetric Method**  
+ 15 to +25 °C                      50 Tests  
In vitro diagnostic use

**CAT. No.                                      PH 17 10**

## REAGENTS

<b>R1 Standard</b>	<b>2.5 ml</b>
<b>R2 Color Reagent</b>	<b>50 ml</b>
<b>R3 Reducing agent</b>	<b>2.5 ml</b>

## CONTACTS

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