

INTRODUCTION

1. AutoZyme Phosphorus is a reagent set for determination of Inorganic phosphorus in serum based on **UV - End Point method** using Ammonium molybdate.
2. AutoZyme Phosphorus is a **single reagent system, ready-to-use.**
3. AutoZyme Phosphorus is **linear** upto 20 mg%.
4. AutoZyme Phosphorus estimates phosphorus in just **five minutes.**
5. AutoZyme Phosphorus can be used on any **Spectrophotometer, Discrete semiautomated and Automated analyzer.** Programme can be designed for any specific analyzer upon request.
6. The **shelf-life** of AutoZyme Phosphorus is 18 months.

PRINCIPLE

Inorganic Phosphorus reacts with Ammonium molybdate in strong acidic medium to form Phospho-Inorganic Molybdate complex. The absorbance of this complex is directly proportional to the phosphorus concentration.



PREPARATION OF WORKING SOLUTION

The reagent is ready-to-use.

REAGENT STORAGE & STABILITY

The reagents are for *in vitro* diagnostic use.

Molybdate reagent & standard should be stored at temperature indicated on the bottle label.

COMPONENTS & CONCENTRATION OF WORKING SOLUTION

Component	Concentration
• Ammonium molybdate	0.3 mmol/l
• Sulphuric Acid	1.0%
• Stabilizers, surface active agent and inactive ingredients	

SPECIMEN COLLECTION & PRESERVATION

Blood should be collected in a clean dry container. Neatly separated serum should be used. Plasma is not recommended as anticoagulants may cause false low results.

Phosphorus is stable for 7 days in neatly separated serum. If the estimation is not possible within 7 days then the specimen should be preserved at -10°C and should be used within 3 weeks.

PROCEDURE

- Reaction type UV - End Point
- Reaction time 5 mins. at 37°C
- Wavelength 340 nm.
- Zero setting with Reagent Blank
- Blank absorbance limit < 0.300 Abs.
- Sample volume 0.01 ml (10 µl)
- Reagent volume 1.0 ml
- Standard concentration 5 mg%
- Linearity 20 mg/dl

Manual assay procedure

The reagents should be brought to room temperature prior to use. Perform the assay as given below:

1.0 ml procedure

	Serum	Standard	Blank
	0.01 ml	0.01 ml	—
Molybdate Reagent	1.0 ml	1.0 ml	1.0 ml

Incubation

Incubate the assay mixture for 5 minutes at 37°C. After completion of incubation period measure the absorbance specimen and standard against blank at 340 nm. Final colour is stable for two hours if not exposed to direct light.

Calculation

$$\text{Inorganic Phosphorus in mg\%} = \frac{\text{Absorbance of Sample}}{\text{Absorbance of Standard}} \times 5$$

NOTE:

The specimen to working reagent ratio can be altered proportionally without affecting the results.

EXPECTED VALUES

ADULTS	:	2.5 - 5.0 mg/dl
CHILDREN	:	4.0 - 7.0 mg/dl

