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.

Phosphorus + Ammonium Molybdate —(Acid pH)→ **Phospho-Inorganic Molybdate Complex.**

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

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

PI-2009-06-00I

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

PROCEDURE LIMITATIONS

1. Discard the working reagent if the absorbance of the same is more than 0.300 against distilled water at 340 nm.

2. If the phosphorus value exceeds linearity limit then dilute the specimen suitably with normal saline and repeat the assay. In such case the assay value should be multiplied by the dilution factor to obtain correct phosphorus value of the specimen.

3. Strong lipemic and haemolytic sera should not be used.

4. **Contaminated glassware is the greatest source of error. Disposable plastic tubes and clean glasswares are recommended for the test.**

5. The reagent contains sulphuric acid. Avoid contact with skin and mucous membrane. If you come in contact with the reagent wash thoroughly with water.

QUALITY CONTROL

To ensure adequate quality control, it is recommended that each assay should include a normal and an abnormal commercial reference control serum. It should be realized that the use of quality control material checks both instrument and reagent functions together. Factors which might effect the performance of this test include proper instrument function, **cleanliness of glassware** and accuracy of pipetting.

Quality Assurance - On line testing

REFERENCES

1. Daly, J.A., ***Clin. Chem.*** 18: 263, 1972.
2. Gamst, O. and Try, K., ***Scand. J. Clin. Lab. Invest.*** 40, 1980.
3. Amador, E. and Urban, J., ***Clin. Chem.*** 18, 60, 1977.

IVD	*In Vitro* Diagnostic Use		Date of Manufacturing
	Consult Instructions for use		Use by (YYYY-MM-DD)
REF	Catalogue Number		Temperature Limitation
LOT	Batch Code		Manufacturer

CE European Conformity

AR. No.: I 15 *PI-2009-06-00I*

AutoZyme

PHOSPHORUS

UV-End Point

ACCUREX BIOMEDICAL PVT. LTD.
Head Office - Mumbai. Tel.: 91(022) 67446744; Fax: 91(022) 67446755
E-mail: accurex@vsnl.com; Website: www.accurex.org
Plant : G-54, MIDC Tarapur, Boisar, Thane - 401 506. INDIA.

PHOSPHORUS • CHOLESTEROL • UV-END POINT • UV-END POINT •