INTRODUCTION

1. *Infinite* Liquid Uric Acid is a reagent set for determination of Uric Acid based on **enzymatic method** using Uricase and Peroxidase.
2. *Infinite* Liquid Uric Acid is a **ready-to-use** reagent.
3. *Infinite* Uric Acid assay can be performed in **5 minutes** at 37°C or **10 minutes** at R.T. (25 - 30°C).
4. *Infinite* Liquid Uric Acid is **linear** upto 25 mg%.
5. *Infinite* Liquid Uric Acid can be used on any **Colorimeter, Spectrophotometer, Discrete semiautomated and Automated analyzer.** Programme can be designed for any specific analyzer upon request.
6. The influence of **Glucose, Bilirubin, Ascorbate, Allopurinal, Urea, Protein, EDTA, Fluoride, Citrate, Oxalate and Haemoglobin** is negligible.

PRINCIPLE

Uricase converts uric acid into allantoin and hydrogen peroxide. In presence of peroxidase, hydrogen peroxide oxidatively couples with phenolic chromogens to form a red coloured compound, which has maximum absorbance at 510 nm.(500 - 530 nm.). The concentration of the red coloured compound is proportional to the amount of uric acid in specimen.

$$\text{Uric acid} + H_2O \xrightarrow{\text{Uricase}} \text{Allantoin} + H_2O_2$$

$$H_2O_2 + \text{Phenolic chromogen} \xrightarrow{\text{Peroxidase}} \text{Red colour compound}$$

REAGENT STORAGE & STABILITY & HANDLING

The kit should be stored at 2 - 8°C and is stable till the expiry date indicated on the label.

The reagent and standard are ready-to-use and are stable till expiry, when stored at 2 - 8°C. **DO NOT FREEZE THE REAGENT.**

The reagent should be stored only in the amber bottle provided to protect it from direct light. Before use swirl the reagent gently. **DO NOT SHAKE VIGOROUSLY.**

Over time, the reagent may develop a light pink colour. This is expected and does not affect the reagent performance. Discard the reagent if the absorbance of the same exceeds 0.300 O.D. against distilled water at 510 nm.

Contamination of the reagent should be strictly avoided. Should the reagent develop turbidity discard the reagent.

COMPONENTS & CONCENTRATION OF WORKING SOLUTION

Component	Concentration
• Buffer, pH 7.8	> 150 mmol/l
• Peroxidase	> 100 IU/l
• Uricase	> 100 IU/l
• Ascorbate oxidase	> 100 IU/l
• Chromogen	1.0 mmol/l
• Activators & Stabilizers	

SPECIMEN COLLECTION & PRESERVATION

Blood should be collected in a clean dry container. Avoid the use of plastic or siliconized container which may prolong clotting time. Serum or plasma should be separated from the cells at the earliest possible (within 30 minutes). For plasma collection following anticoagulants may be used.

• EDTA	2 mg/ml of blood
• CITRATE	6 mg/ml of blood
• HEPARIN	200 IU/ml of blood
• OXALATE	3 mg/ml of blood
• SODIUM FLUORIDE	10 mg/ml of blood

In neatly separated serum or plasma, uric acid is stable for 3 days at room temperature (below 25°C) and for 6 months when stored at -10°C.

PROCEDURE

- ☐ **Reaction type** ..... **End-Point**
- ☐ **Reaction time** .....**5 mins. at 37°C/10 mins. at R.T. (25 - 30°C)**
- ☐ **Wavelength** .....**510 nm. (500 - 530 nm.)**
- ☐ **Zero setting with** ..... **Reagent Blank**
- ☐ **Blank absorbance limit** ..... **< 0.300 Abs.**
- ☐ **Sample volume** ..... **0.025 ml (25 µl)**
- ☐ **Reagent volume** ..... **1.0 ml**
- ☐ **Standard concentration** ..... **6 mg%**
- ☐ **Linearity** ..... **25 mg/dl**

Manual assay procedure

Prewarm at room temperature (25 - 30°C) the required amount of reagent before use.

Perform the assay as given below :

1.0 ml procedure

	Serum / Plasma	Standard	Blank
	0.025 ml	0.025 ml	—
Reagent	1.0 ml	1.0 ml	1.0 ml

Incubation

Incubate the assay mixture for 5 minutes at 37°C or 10 minutes at R.T. (25 - 30°C). After completion of the incubation measure the absorbance of assay mixture against blank at 510 nm. Final colour is stable for 30 minutes if not exposed to direct light.

Calculation:

❶ **With standard**

$$\text{Conc. (mg\%)} = \frac{\text{Absorbance of Sample}}{\text{Absorbance of Standard}} \times 6$$

❷ **With factor for wavelength range : 500 - 510 nm.**

Conc. (mg%) = 28 x Absorbance of sample

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NOTE :

1. The specimen / reagent volume ratio can be altered to 20 µl : 1.0 ml for laboratories not having the facility to dispense 25 µl of specimen volume. In this case the laboratory will have to establish its own factor for direct calculation of results.

EXPECTED VALUES

Male	:	**3.4 - 7.0 mg%**
Female	:	**2.4 - 5.7 mg%**

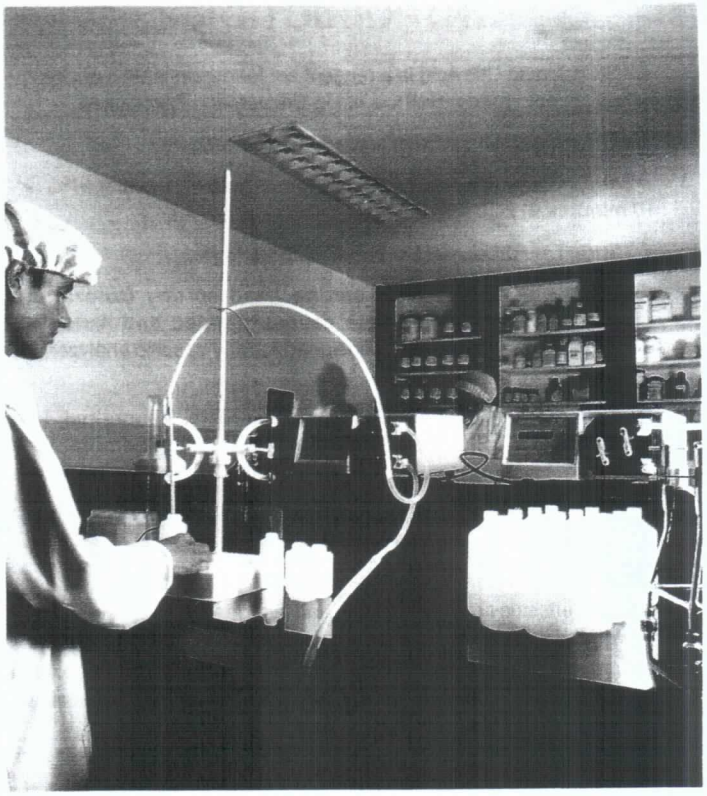
Expected range varies from population to population. It is therefore recommended that each laboratory should establish its own normal range.

PROCEDURE LIMITATIONS

1. The reagent is considered unsatisfactory and should not be used if its absorbance exceeds 0.300 at 510 nm. against distilled water.
2. If the uric acid value is above 25 mg%, then dilute the specimen suitably with normal saline. In such case the results obtained should be multiplied by dilution factor to obtain correct uric acid value.

QUALITY CONTROL

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



Liquid dispensing facility

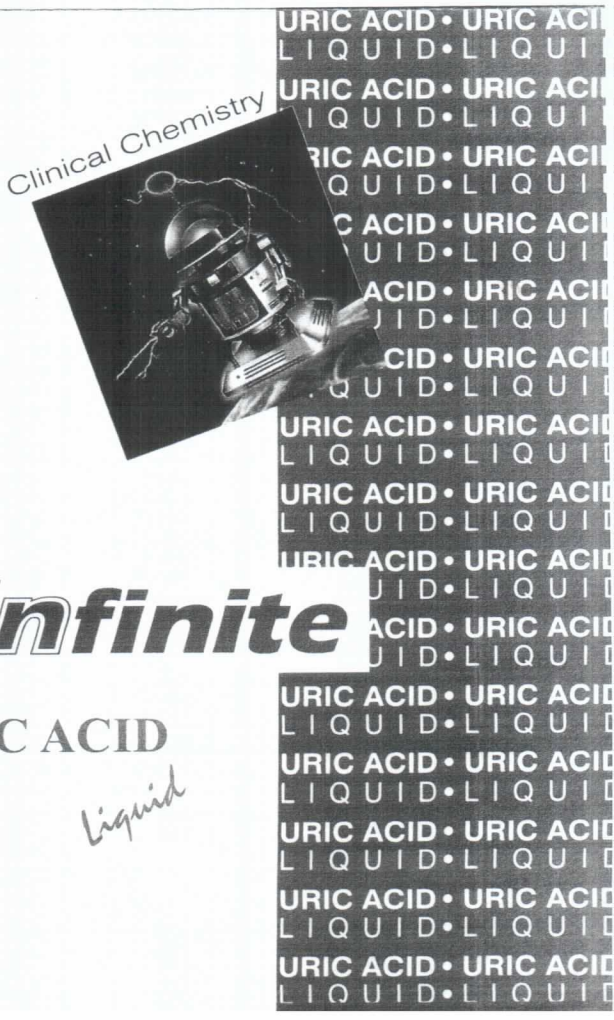
REFERENCES

1. Thefeld W. et al, ***Dtsch. Med. Wschr.,*** 98, 380 (1973).
2. Fossati P., et al, ***Clin. Chem.*** 26, 227 (1980)

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 29 *LU-2009-03-00I*



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