



## UREA BERTHELOT KIT

### PRINCIPLE:

Urea is hydrolysed by urease into carbon dioxide and ammonia. Ammonia reacts with salicylate and hypochlorite in an alkaline medium to form a green coloured compound. The colour intensity of this compound is proportional to the amount of urea present in the sample.

### REAGENT:

1. Reagent R1 : Buffer reagent
2. Reagent R2 : Enzyme Reagent
3. Reagent R3 : Chromogen Reagent
4. Standard : 50 mg/dl Ready To Use

### REAGENT PREPARATION AND STABILITY:

All the reagents are stable liquid reagents and is stable till expiry.

### SAMPLE:

Serum, Plasma or Urine. They can be stored at 2-8<sup>0</sup> C for 5 days.

If urine sample is to be assayed, it should be previously diluted 1/100 with deionized water. Multiply the final result by 100.

### PROCEDURE:

WAVE LENGTH	: 546 nm		
TEMPERATURE	: 37 <sup>0</sup> C		
CUVETTE	: 10 mm path length		
STANDARD	: 50 mg/dl (refer the vial Label)		
INCUBATION	: 5 mins + 5 mins. at 37 <sup>0</sup> C & 10 mins + 10 mins. at Room Temperature		
Pipette into cuvettes	Blank	Standard	Test
Reagent R1	500 ul	500 ul	500 ul
Reagent R2	100 ul	100 ul	100 ul
Sample/ Standard	Distilled water	10 ul	10 ul
Mix & incubate at 37 <sup>0</sup> C for 5 minutes or 10 minutes at room temperature.			

Reagent R3	500 ul	500 ul	500 ul
Mix & incubate at 37 <sup>0</sup> C for 5 minutes or 10 minutes at room temperature. Measure the absorbance at 546 nm, against blank.			

### CALCULATIONS:

(Abs. = Absorbance)

$$\frac{\text{Abs. of Sample}}{\text{Abs. of Standard}} \times \text{Concentration of Standard} = \text{mg/dl}$$

**EXPECTED VALUES** SERUM : 10 – 50 mg/dl  
 URINE : 20 – 35 g/24 h

Urea Nitrogen in mg/dl = Urea in mg/dl × 0.467.

**LINEARITY** : upto 300 mg/dl

### REFERENCES:

1. Fawcett J.K., Scott J.E – J. Clin. Path 13, 156 (1960)
2. Tabacco A. et. al. Clin. Chem. 25, 336 (1979)