

**UREA/BUN**

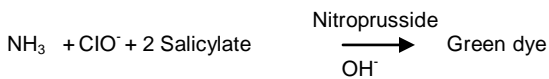
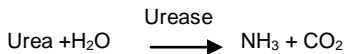
Colorimetric –Urease method

**READ THIS PACK INSERT VERY CAREFULLY BEFORE PERFORMING THE TEST**

Catalog no: NRL- URE

**Principle:**

Urea is hydrolyzed with urease to produce ammonia and carbon dioxide. In modified Berthelot reaction the ammonium ions react with hypochlorite and salicylate to give a green dye. The increase of absorbance at 600 nm is proportional to the urea concentration in the sample.

**Reagent composition:**

- |                         |           |  |
|-------------------------|-----------|--|
| 1. Reagent I (Enzyme)   |           |  |
| Phosphate buffer pH 7.2 | 50 mmol/L |  |
| Sodium salicylate       | 10 mmol/L |  |
| Sodium nitroprusside    | 5 mmol/L  |  |
| Urease                  | 5500 U/L  |  |
| 2. Reagent II ( Color)  |           |  |
| Sodium hypochloride     | 20 mmol/L |  |
| 3. Urea standard        | 40 mg/dl  |  |

**Reagent preparation:**

Reagent is ready to use.

**Storage & stability:**

Store at 2-8° C, and keep away from light. Unopened reagent is stable until expiry date stated on the label.

**Sample:**

Unhemolysed serum or heparinised plasma can be used.

**Procedure:**

Let stand reagents and specimens at room temperature.

Tube	Blank	Standard	Test
Reagent I	1000µl	1000 µl	1000 µl
Standard	-	10 µl	-
Sample	-	-	10 µl

Mix and Incubate @ 37 °C for 5min.

Reagent II	1000µl	1000µl	1000µl
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Mix and Incubate @ 37 °C for 5min. Read the absorbance at 630 nm.

**Calculations:**

Calculate the result as follows:

$$\text{Urea (mg/dl)} = \frac{A_{\text{sample}}}{A_{\text{standard}}} \times \text{Std. con.}$$

**Expected value:**

	Urea	BUN
Serum	: 15-40 mg/dl	4.8-23.3 mg/dl

**Each lab should optimize its own normal range.****Quality control:**

The assay is linear up to 300 mg/dl. Use always QC sera to analyze the performance of the assay.