Technical Bulletin

Urea (BUN) Quick Test Strips

Catalog Number MAS008

Product Description

Urea, the major end product of protein catabolism in animals, is primarily produced in the liver and secreted by the kidneys. It is the primary vehicle for removal of toxic ammonia from the body. Urea is widely used in the agricultural industry as a fertilizer as well as an animal feed additive. Milk urea is often monitored to determine the amount of protein in an animal's diet. Additionally, small amounts of urea can be found in many kinds of fermented foods and beverages.

The Urea (BUN) Quick Test Strips are based on urease-catalyzed conversion of urea to ammonium and carbon dioxide. The pH of the reaction medium is monitored by a chromogen and the intensity of the product color is directly proportional to the urea concentration in the sample. The Urea (BUN) Quick Test strips allow for rapid and inexpensive quantitative determination of urea or blood urea nitrogen (BUN) and do not require sophisticated laboratory instruments. The semi-quantitative detection range of the kit is 0-1500 mg/L (undiluted) urea.

This kit is suitable for the detection of Urea (BUN) in a variety of food and beverage samples, as well as biological samples such as serum, plasma, and urine.

Components

The kit is sufficient for 10 tests

- Urea (BUN) Test Strips (10 strips) Catalog Number MAS008A — 1 Each
- Dilution Tubes Catalog Number MAS008B — 10 Each

Equipment Required but Not Provided

- Pipetting devices and accessories

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The kit is shipped at room temperature. Store components at 2-8 °C. Keep strips dry and out of direct sunlight.

Preparation Instructions

Sample Preparation

Most serum and plasma samples can be tested undiluted. Heparin or EDTA used in Plasma collection will not interfere with the assay method. Citrate should be less than 30 mM to prevent interference.

For most urine samples, it is recommended to dilute samples 31-fold. Milk samples often require a 2-fold dilution.

1. For samples requiring a dilution, dilute samples into Dilution Tubes according to Table 1. Mix thoroughly.

   Table 1.
   Sample Dilutions

Dilution	Purified Water	Original Sample
2-Fold	20 µL	20 µL
31-Fold	600 µL	20 µL

Procedure

1. Transfer 20 µL of diluted or undiluted Sample directly onto the reaction pad of a Urea (BUN) Test Strip.
2. Shake the strip a couple of times to remove any drops clinging to the strip and let color develop on strip for 5 minutes.
3. Compare the color of the reaction pad of the strip with the provided Urea (BUN) Chart. Multiply the Concentration in the chart by the dilution used (i.e., 2 or 31) to determine the concentration of Urea (BUN) in the original Sample.

   Conversion factor: BUN (mg/L) =

$$\frac{Urea\ (\frac{mg}{L})}{2.14}$$

   1 mg/L Urea = 0.1 mg/dL, 16.7 µM, 0.0001% or 1 ppm.

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