Technical Bulletin

L-Glutamate Quick Test Strips

Catalog Number MAS004

Product Description

Glutamate is an important chemical in general metabolism. It is also widely used as a flavor enhancer in the food industry. Consumption of food containing monosodium glutamate (MSG) has been known to cause headaches, flushing, sweating, nausea, and more.

The L-Glutamate Quick Test Strips are based on the glutamate dehydrogenase-catalyzed oxidation of L-glutamate in which the formed NADH reduces a chromogenic reagent. The intensity of the product color is directly proportional to the glutamate concentration in the sample. The semi-quantitative detection range of the kit is 0-300 mg/L (undiluted) L-glutamate.

This kit is suitable for the detection of L-glutamate in a variety of food and beverage samples.

Components

The kit is sufficient for 10 tests

- L-Glutamate Test Strips (10 strips) Catalog Number MAS004A — 1 Each
- Sample Development Tubes (400 µL of Development Reagent per tube) Catalog Number MAS004B — 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

For most instant soups and acidic samples, we strongly recommend diluting samples 21-fold dilution. Most soy sauces and fish sauces will require a 210-fold dilution. Milk and samples that are not expected to have very high levels of L-glutamate should be diluted 5-fold.

For samples requiring a 210-fold dilution, first make a 10-fold dilution by carefully transferring 100 µL of Sample into 900 µL of purified water. Mix dilution thoroughly and use for Procedure.

Procedure

1. Unscrew the cap of one of the Sample Development Tubes and add the Sample volume required according to Table 1.

   Table 1.
   Sample Dilutions

Final Dilution	Volume of Sample to Add to Tube
210-fold	20 µL of 10-fold dilution of Sample
21-fold	20 µL
5-fold	100 µL

2. Replace cap on the Sample Development Tube, securely close the tube, and invert the tube 3-4 times to mix the diluted Sample.
3. Unscrew cap and dip in one of the L-Glutamate Test Strips, making sure to fully submerge the reaction pad at the end of the strip. Leave the strip submerged for 5 seconds and then remove the strip and shake gently to remove any excess liquid.
4. Allow the color to develop on the strip for 5 minutes.
5. Compare the color of the reaction pad of the strip with the provided L-Glutamate Chart. Multiply the concentration on the chart by the Sample dilution factor (i.e., 5, 21, or 210) to determine the concentration of L-Glutamate in the original Sample.

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