Technical Bulletin

L-Lactic Acid Quick Test Strips

Catalog Number MAS002

Product Description

L-Lactic acid, or L-lactate, is generated by lactate dehydrogenase (LDH) under hypoxic or anaerobic conditions. L-Lactic acid is added to many foods and beverages to provide a tart flavor. Increased levels of L-lactic acid in milk, egg, and fruit juice products can be an indication of spoilage. In the wine industry, increasing levels of L-Lactic acid and the corresponding decreasing levels of L-malic acid are monitored (malolactic fermentation). In this process, the overall acidity of the wine is reduced and can lead to the improvement of the flavor of the wine.

The L-Lactic Acid Quick Test Strips are based on the L-lactate dehydrogenase-catalyzed oxidation of L-lactate in which the formed NADH reduces a chromogenic reagent. The intensity of product color is directly proportional to L-lactate concentration in the sample. The semi-quantitative detection range of the kit is 0-360 mg/L (undiluted) L-lactic acid.

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

Components

The kit is sufficient for 10 tests

- L-Lactic Acid Test Strips (10 strips) Catalog Number MAS002A — 1 Each
- Sample Development Tubes (400 µL of Development Reagent per tube) Catalog Number MAS002B — 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

No initial dilution is required. For wine samples, a 21-fold dilution of the sample is recommended. Other acidic samples (fruit juice, beer, etc.) should be diluted 5-fold. Homogenized milk should be diluted 2-fold.

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
21-fold	20 µL
5-fold	100 µL
2-fold	400 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-Lactic Acid Test Strips, making sure to fully submerge the yellow 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-Lactic Acid Chart. Multiply the concentration on the chart by the Sample dilution factor (i.e., 2, 5, or 21) to determine the concentration of L-Lactic Acid in the original Sample.

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

Technical Service

Visit the tech service page on our web site at SigmaAldrich.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at SigmaAldrich.com/terms.