



## LACTIC ACID in milk

<b>PRINCIPLE</b>	
L - Lactic acid (+) + O <sub>2</sub>	Lactate oxidase piruvic acid + H <sub>2</sub> O <sub>2</sub>
$2\text{H}_2\text{O}_2 + 4\text{-aminophenazone} + \text{phenolic der.} \xrightarrow{\text{POD}} \text{quinoneimine} + 4\text{H}_2\text{O}$	
<b>REAGENTS</b>	
<b>Reagent R1 (ready in cuvette):</b>	Phenolic derivate Phosphate buffer
<b>Reagent R2 (lyophilic form):</b>	Lactate oxidase Peroxidase
<b>REAGENTS PREPARATION</b>	
Reagent <b>R1</b> ready to use. <b>Preparation reagent R2:</b> Put the diluent into the bottle with the lyophilic. Mix carefully and use the solution vial dropper.	
<b>STABILITY</b>	
Reagents are stable up label expiration date. Store at <b>2 - 8 °C</b> .	
<b>SAMPLE</b>	
Whole, skim and pasteurized milk. It's very important to mix well the milk bottle before sampling.	
<b>REACTION CONDITION (Edit)</b>	
Chan: 545 nm	Timer BLK: 5 min
K factor:	Timer SMP: 2 min
Q sign: +	Temperature: 37°C
Q offset:	Mode: END POINT
Decimal: 1	Sample: 50 µL
Anl/Std: ANL (for testing) - STD (standardization)	
<b>OPERATING PROCEDURE</b>	
Select the test Lactic acid on well 1: <b>1:Lactic acid</b> on DISPLAY appears Timeout 5 min	
Put <b>50 µL</b> of sample into cuvette with reagent <b>R1</b> , mix <b>IMMEDIATELY</b> and put it into the incubation cell. Do it for every sample to test. A session of analysis permits to test until to 14 samples. At the end, press " <b>Enter</b> " for the countdown. 5 minutes later press: <b>ENTER</b> on DISPLAY appears Insert blank	
Mix well and put the cuvette, just incubated at 37°C (R1 + sample), into the reading cell with the green light. Press " <b>Enter</b> " <b>immediately</b> . Do it for every sample to test. Press " <b>STOP</b> " with the "arrow up" for reading the samples. Add <b>1 drop</b> of Reagent <b>R2</b> into the cuvette and mix well. Put the cuvette into the incubation cell. Do it for every sample to test. At the end, press " <b>Enter</b> " for the countdown. 2 minutes later press: <b>ENTER</b> on DISPLAY appears Insert sample	
Mix well and put the cuvette into the reading cell with the green light. Press " <b>Enter</b> " <b>immediately</b> . At the end of the session of analysis, results appear as ppm of Lactic acid.	
<b>STANDARDIZATION PROCEDURE</b>	
Select in EDIT the function " <b>STD</b> ". Select the test Lactic acid on well 1: <b>1:Lactic acid</b> on DISPLAY appears Insert Conc. 1, 2, 3 ... < 0.0>	
Insert the standards concentration and confirm with " <b>Enter</b> ". Minimum number accepted: 3 standards. At the end, press " <b>STOP</b> " for reading the standards. Follow the same procedure described for testing the samples. At the end, on the display appears the "K factor", the "q offset" and the "r <sup>2</sup> " of the linear regression. Press " <b>MEMO</b> ": the values are stored in "Edit" in automatic mode.	
<b>LINEARITY</b>	
This method is linear up to 60 ppm. Samples with higher concentration should be diluted 1:2 with distilled water. Multiply result by diluted factor. The sensitivity is 2 ppm.	
<b>NORMAL VALUES</b>	
Absent in just milked milk.	
<b>NOTES</b>	
<ol style="list-style-type: none"> <li><b>CAUTION!</b> It's very important to mix the milk bottle well before testing. The sample must be homogeneous.</li> <li>Clin the tip with adsorbent paper without suck the milk inside.</li> <li>Put the milk into the cuvette and mix it <b>immediately</b>.</li> <li>Mix the cuvette before reading the blank and the sample.</li> <li>After incubation, the stability of blank signal is 15 minutes and the stability of colour signal is 15 minutes.</li> <li>Avoid to contaminate the reagents and the sample with hands.</li> </ol>	