



# L-Malic Acid (K-LMALQR) Procedure for ChemWell® 2910 Auto-Analyser

## Requirements:

- L-Malic Acid (Liquid Ready Reagents) Assay Kit (K-LMALQR) (provides ~ 1100 assays).
- K-LMALQR ChemWell® 2910 assay file.
- Use in association with the L-Malic Acid (Liquid Ready Reagents) Assay Kit (K-LMALQR) product data booklet.

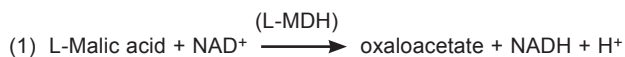
## Use:

For the specific measurement of L-malic acid especially in wines, fruit juices, beverages and food products.

For specific sample preparation methods refer to the L-Malic Acid (Analyser Format) Assay Kit (K-LMALAF) data booklet.

## Assay Principle:

Conversion of L-malic acid via the following reactions is directly proportional to the coupled formation of NADH:



## Procedure:

Prepare the assay reagents and calibrators and use with the K-LMALQR ChemWell® 2910 assay file.

## L-Malic Acid (Liquid Ready Reagents) Assay Kit Components:

### Bottle 1: Reagent 1 (44 mL)

Contains sodium azide (0.08% w/v) as a preservative. Ready to use.  
Stable for > 2 years at 4°C.

### Bottle 2: Reagent 2 (22 mL)

Contains sodium azide (0.05% w/v) as a preservative. Ready to use.  
Stable for > 2 years at 4°C.

### Bottle 3: L-Malic Acid Standard (2 mL)

(6 g/L) Ready to use.  
Stable for > 2 years at room temperature.

## Preparation of Assay Reagents:

### K-LMALQR R1:

Use bottle 1 (Reagent 1) as supplied.

### K-LMALQR R2:

Use bottle 2 (Reagent 2) as supplied.

### Calibrators:

K-LMALQR 4: Use bottle 4 (L-Malic Acid Standard) as supplied.

Use serial dilutions of K-LMALQR 4 to prepare K-LMALQR 2 and K-LMALQR 3.

K-LMALQR 1: 0 g/L (use distilled water)

K-LMALQR 2: 1.5 g/L L-malic acid

K-LMALQR 3: 3.0 g/L L-malic acid

K-LMALQR 4: 6.0 g/L L-malic acid

## Assay Parameters:

Assay volumes:	Distilled water: 0.160 mL
	K-LMALQR R1: 0.040 mL
	Sample: 0.003 mL
	K-LMALQR R2: 0.020 mL
Calibrators:	0, 1.5, 3.0, 6.0 g/L L-malic acid
Reaction time:	3 min at 37°C
Wavelength:	340 nm
Assay type:	endpoint
Reaction direction:	increase
Linearity:	up to 6 g/L of L-malic acid

