



# D-Lactic Acid (K-DATE) Procedure for ChemWell®-T Auto-Analyser

## Requirements:

- D-Lactic Acid (D-Lactate) (Rapid) Assay Kit (K-DATE) (provides ~ 475 assays).
- K-DATE ChemWell®-T assay file.
- Use in association with the D-Lactic Acid (D-Lactate) (Rapid) Assay Kit (K-DATE) product data booklet.

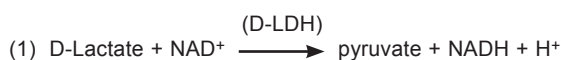
## Use:

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

For specific sample preparation methods refer to the D-Lactic Acid (D-Lactate) (Rapid) Assay Kit (K-DATE) data booklet.

## Assay Principle:

Conversion of D-lactic 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-DATE ChemWell®-T assay file.

## D-Lactic Acid (D-Lactate) (Rapid) Assay Kit Components:

**Bottle 1:** Buffer (25 mL, pH 10.0) plus D-glutamate and sodium azide (0.02% w/v) as a preservative. Stable for > 2 years at 4°C.

**Bottle 2:** NAD<sup>+</sup>. Stable for > 5 years at -20°C.

**Bottle 3:** D-Glutamate-pyruvate transaminase suspension (1.1 mL). Stable for > 2 years at 4°C.

**Bottle 4:** D-Lactate dehydrogenase suspension (1.1 mL). Stable for > 2 years at 4°C.

## Preparation of Kit Components:

1. Use the contents of bottle 1 as supplied. Stable for > 2 years at 4°C.
2. Dissolve the contents of bottle 2 in 5.5 mL of distilled water. **Stable for > 1 year at 4°C** or > 2 years at -20°C (to avoid repetitive freeze / thaw cycles, divide into appropriately sized aliquots and store in polypropylene tubes).
- 3 & 4. Use the contents of bottles 3 and 4 as supplied. Swirl the bottle to mix contents before use. Stable for > 2 years at 4°C.

## Preparation of Assay Reagents: (per ~ 95 assays)

### Reagent 1:

Component	Volume
distilled water	12.9 mL
bottle 1 (buffer)	5 mL
*bottle 2 (NAD)	1 mL
bottle 3 (D-GPT)	0.2 mL
Total volume	19.1 mL

\*after adding 5.5 mL of distilled water

Reagent 1 stability: > 2 days at 4°C

### Reagent 2:

Component	Volume
distilled water	2.2 mL
bottle 4 (D-LDH)	0.2 mL
Total volume	2.4 mL

Reagent 2 stability: > 2 days at 4°C

## Calibrators:

- K-DATE 1: 0 g/L (use distilled water)  
K-DATE 2: 0.25 g/L D-lactic acid  
K-DATE 3: 0.5 g/L D-lactic acid  
K-DATE 4: 1.0 g/L D-lactic acid

## Assay Parameters:

- Assay volumes: Reagent 1: 0.200 mL  
Sample: 0.010 mL  
Reagent 2: 0.025 mL
- Calibrators: 0, 0.25, 0.5, 1.0 g/L D-lactic acid  
Reaction time: 5 min at 37°C  
Wavelength: 340 nm  
Assay type: endpoint  
Reaction direction: increase  
Linearity: up to 1 g/L of D-lactic acid

