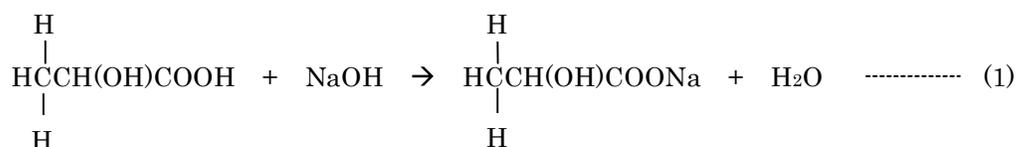


AQUACOUNTER Application Sheet	COM series	DATA No. K4	1st edition
Organic Acid		Quantification of lactic acid	

1. Measurement outline

Lactic acid is an oxycarbonic acid containing a carboxyl group (-COOH) and an alcoholic hydroxyl group (-OH), and it dissolves in water and is acidic. Lactic acid is manufactured as a raw material for organic synthesis chemistry and as a food additive. The method for quantifying lactic acid is stipulated in JIS K 8726, and it is quantified by back titration using sodium hydroxide and sulfuric acid with phenolphthalein indicator.

This section introduces an example of measurement on lactic acid aqueous solution for disinfection of raw noodles by potentiometric titration using sodium hydroxide titrant.



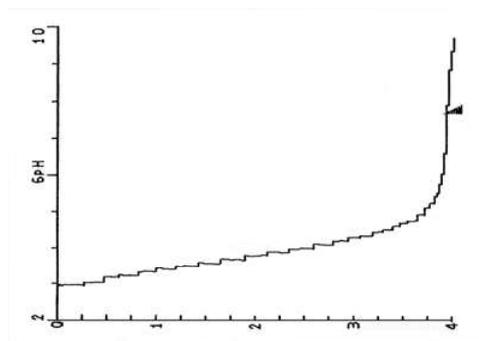
2. Reagents and Electrodes

(1) Reagents	Titrant	0.1mol/L sodium hydroxide titrant
(2) Electrodes *standard accessories	Indicator electrode	*Glass electrode GE-101B to IE jack
	Reference electrode	*Reference electrode RE-201 to RE jack

3. Measurement conditions example (for COM-1600S)

(1) Method	Auto
(2) End Sens	1000
(3) Mode	1
Pre Int	0
Del K	9
Del Sens	0
Int Time	1
Int Sens	3
Brt Speed	2
Pulse	40

4. Measurement example



Measurement results on lactic acid solution

Sample No.	Sample volume (mL)	Titration value (mL)	Concentration (ppm)
1	20	8.0484	0.3644
2	20	8.0354	0.3638
3	20	8.0352	0.3638
Avg.			0.3640 %
Std. Dev.			0.00035 %
C.V.			0.096 %

5. Outline

Xycarbonic acid has the natures of both carboxylic acid and alcohol. The acid strength is increased by introduction of hydroxyl group and the acid strength becomes weaker as its position goes farther away from COOH.

Key words

Quantification of lactic acid, neutralization titration

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