

<b>AQUACOUNTER Application Sheet</b>	<b>COM series</b>	<b>DATA No. A7</b>	<b>1st edition</b>
<b>Food and Beverage</b>	<b>Measurement of acid value of edible oil</b>		

### 1. Measurement outline

The acid value of oils and fats indicates the level of free fatty acid contained in oils and fats, and it is expressed as the mg value of potassium hydroxide required to neutralize 1g of the sample.

In this measurement method, the sample is dissolved in 100mL of neutral ethanol:ether (1:1) solution and titrated with 0.1mol/L potassium hydroxide.

### 2. Reagents and Electrodes

(1) Reagents	Titrant	0.1mol/L Potassium Hydroxide
	Titration solvent	Ethanol:Diethylether, 1:1 mixture
(2) Electrodes *standard accessories	Indicator electrode	*Glass electrode GE-101B to IE-1 jack
	Reference electrode	*Reference electrode RE-201 to RE-1 jack

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

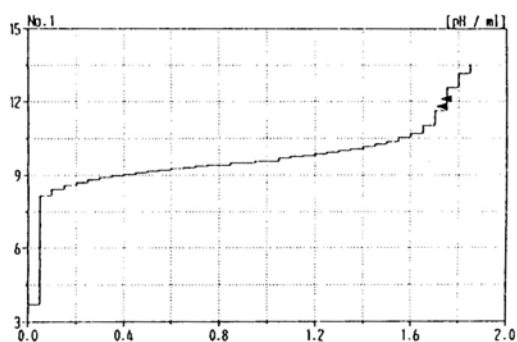
<b>Master File No.1</b>	
<b>Condition file: 1</b>	
<b>Parameters for Condition file 1</b>	
Method	SET
Buret No.	1
Meas Unit	pH
S-Timer	10 sec
CP,DP Unit	mL
CP	0 mL
DP	0 mL
Direction	↑
End Point	11.8
Over mL	0 mL
Max Vol	20 mL
Mode No.	8 (Pulse = 8 or Min Feed = 0.01)
Unit	mg/g
Formula	(D-B)×K×F×M/S (To be set automatically)
Blank	0
Molarity	0.1
Factor	Titre of the titrant
K	56.1 (As KOH)

#### 4. Measurement Procedure.

Take ca. 1g of sample into the titration vessel. Weigh accurately. Add 100mL of titration solvent and place the titration vessel on the magnetic stirrer. Lower the electrode holder.

Press the TITRATION key. On completion of the titration, rinse the electrode with the titration solvent and store the electrode in the deionized water.

#### 5. Measurement example



#### Acid value measurement results

Sample No.	Sample size (g)	Titration value (mL)	Acid value (mg/g)
1	9.9940	1.727	0.965
2	10.0093	1.733	0.967
3	10.0373	1.727	0.961
4	10.0223	1.725	0.961
Avg.			0.964 mg/g
Std. Dev.			0.003 mg/g
C.V.			0.311 %

#### 6. Notes

- (1) The electrodes should be soaked in deionized water periodically for about 10 minutes to activate.

#### Key words

Acid value, edible oil, oils and fats,

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