

Coulometric Karl Fischer titration

Kyoto Electronics Manufacturing Co.,Ltd.

Data No. LA13-99051

Moisture measurement on 2-Propanol (Isopropyl Alcohol)

-Summary-

As the result of the feasibility study of the moisture measurement for 2-Propanol by MKC-520, a good repeatability was observed. Therefore, this measurement is judged possible.

-Measuring instrument-

Main unit:	MKC-520	Coulometric KF moisture titrator
Electrode:	M-713	Twin Platinum Electrode
	98-103-0002	Inner burette (one chamber)

-Reagent-

Anolyte:	Coulomat AG
----------	-------------

-Measuring method-

Preparation:

- (1) Put 150mL of Anolyte in the titration cell.
- (2) Pre-titrate it for dehydration.

Measurement:

- (1) Take approximately 0.4g of the sample with the syringe and measure the moisture of it.

-Equation-

Moisture(ppm): $((Data-BG \times t - Blank) / (Wt1 - Wt2))$

Data: Total water content (μg)

t : Measuring Time (s)

Wt1: Tare including sample weight (g)

BG: Background value (μg/s)

Blank: Blank value (μg)

Wt2: Tare including residual weight (g)

-Ambient conditions-

Temperature: 22.8 °C

Relative Humidity: 43 %

Weather: Fine

-Measurement parameter-

[T I T R . P A R A]	
Method	1
Tit. Cell No.1	
t(Stir)	0 s
t(Wait)	0 s
t(Max)	0 s
Drift Stop	Rel
	0.1 µg/s
Cont.Gain	5.0
Stable	0.1 µg/min
Start	Auto
Oven	Off
[C A L C U . P A R A]	
Calc. No.	2
Unit	: ppm
Weight	: Variable
Drift Comp	: Auto

-Printout data-

*** Result ***	
Sample No.	01-01
Date	2013/09/10 09:34
Tit. Cell No.1	
Wt1	0.4029 g
Wt2	0.0000 g
Net	0.4029 g
Result	114.8 ug 284.93 ppm
*** Result ***	
Sample No.	01-02
Date	2013/09/10 09:38
Tit. Cell No.1	
Wt1	0.4010 g
Wt2	0.0000 g
Net	0.4010 g
Result	114.2 ug 284.79 ppm
*** Result ***	
Sample No.	01-03
Date	2013/09/10 09:41
Tit. Cell No.1	
Wt1	0.4016 g
Wt2	0.0000 g
Net	0.4016 g
Result	113.9 ug 283.62 ppm

-Measurement results-

Run	Sample size (g)	Moisture(µg)	Conc. (ppm)	Statistics	
1	0.4029	114.8	284.93	Mean	284.23 ppm
2	0.4010	114.2	284.79	SD	1.1584 ppm
3	0.4016	113.9	283.62	RSD	0.4075 %
4	0.3992	113.9	285.32		
5	0.4000	113.0	282.50		

-Comments-

--