

Application Memo

Factor Determination on Karl Fischer Reagents (with Water-in-methanol Standard)

Industry	:	Inorganic chemical
Instrument	:	Karl Fischer Moisture Titrator
Measurement method	:	Volumetric titration
Standards	:	JIS K 0113, JIS K 0068, JIS K 2275, ISO 760 Japan Pharmacopoeia,13 th ASTM E203, ASTM D 1533, ASTM D 1744

1. Overview

Moisture determination by Karl Fischer (KF) method has been most popularly practiced in the world because it is recognized as the most reliable method for the measurement of water. The KF method is adopted by plenty of international institutions including not only ISO, ASTM, DIN, and BS but also JIS, JAS and Japan Pharmacopoeia.

In KF measurement, it is necessary to determine the factor (or titer) of KF reagents using standard substances before actual measurements. The example in this application note shows the factor determination with Water-in-methanol Standard.

2. Apparatus

Main unit	:	Karl Fischer moisture titration volumetric system
Electrode	:	Twin Platinum Electrode

3. Reagents

Titrant	:	Composite 5 (made by RdH)
Solvent	:	Dehydrating solvent ML (made by Hayashi)

4. Example

—Measurement results—

Run	Vol. 1 (mL)	Water content (mg)	Factor (mg/mL)	Statistics	
1	1.185	5.9700	5.0380	Mean SD RSD	5.0680 mg/mL 0.0192 mg/mL 0.3789 %
2	1.175	5.9700	5.0809		
3	1.180	5.9700	5.0593		
4	1.175	5.9700	5.0809		
5	1.175	5.9700	5.0809		

Please feel free to contact us for any further information.

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