

Application Memo

Water Content of Acids (3) [Formic Acid]

Industry	:	Inorganic Chemical
Instrument	:	Karl Fischer Moisture Titrator
Measurement method	:	Volumetric titration /Direct method
Standards	:	JIS K 0113, ASTM E 203, ISO 760

1. Overview

Moisture titration using Karl Fischer reagent is popularly practiced water determination worldwide as the most reliable method. The procedure is adopted in many official standards as test method specified as in ISO, ASTM and JIS, etc.

Here in this application note, we determine water content of formic acid by volumetric KF titration according to JIS K 0113-2005 as quoted below.

Formic acid reacts to esterification with methanol, and forms water. Therefore, dissolve it in commercially sold KET solvent for ketone in order to measure water content.

2. Apparatus

Main unit	:	Karl Fischer moisture titration volumetric system
Electrode	:	Twin platinum electrode for KF titration

3. Reagents

Titrant	:	KEM AQUA TR-5
Solvent	:	KEM AQUA KET (for ketone)

4. Example

—Measurement results—

Sample name	Sample (g)	Extracting medium	Water content	
			(mg)	(%)
Formic acid	2.420	KET	30.11	1.24

Please feel free to contact us for any further information.

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