

Application Memo

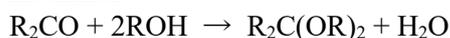
Water Content in Ketone (4)

Industry	Organic chemical industry
Instrument	Karl Fischer moisture titrator
Measurement method	Volumetric titration (Direct Method)
Standards	JIS K 0113, ASTM E 203, ISO 760

1. Overview

Moisture titration with Karl Fischer reagent is the most reliable moisture measurement method in the world. The procedure is adopted in many official standards as test method specified in ISO, ASTM, DIN, BS and JIS.

Here in this application, we measure water content of ketone by direct method of KF titration according to JIS K 0113. The ketones induce side reaction of generating water with alcohol like methanol.



However, the side reaction can be avoided by titration with commercially sold solvent for ketone.

2. Apparatus

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

3. Reagents

Titrant	KEMAQUA titrant TR-3
Solvent	KEMAQUA solvent KET for ketone

4. Example

—Measurement results—

Sample name	Max volume	Water content	
		(mg)	(%)
Benzylmethyl-ketone	10mL	2.00	0.038
Benzylacetone	10mL	9.98	0.64
Benzophenone	5g	0.13	0.003
Benzoin	2g	0.38	0.043
1-acetylpyridine	10mL	4.40	0.39

Sample name	Max volume	Water content	
		(mg)	(%)
2-acetyl benzoic acid	10g	1.82	0.079
2-benzyl benzoate	10mL	36.57	0.94
Ethylaceto- acetate	10mL	41.98	0.52
Ethyl levulinate	10mL	3.07	0.057
Benzoyl acetic ether	10mL	1.99	0.033

Please feel free to contact us for any further information.

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