

Application Memo

Water Determination in Hydroxylamines (3) [Hydroxylamine·Hydroxyl ammonium nitrate]

Industry	:	Organic Chemical
Instrument	:	Karl Fischer Moisture Titrator
Measurement method	:	Volumetric Titration (Direct Method)
Standards	:	JIS 0113 ASTM E 203 ISO 760

1. Overview

The moisture in Hydroxylamine and Hydroxyl ammonium nitrate can be determined by the Karl Fischer titration method (Volumetric) in accordance with “JIS K 0113 (’92)—General rules for methods of potentiometric, amperometric, coulometric, and Karl-Fischer titrators.”

Since Hydroxylamine and Hydroxyl ammonium nitrate undergo the below-mentioned side reaction, titrate with Hydranal Composite 5K for ketone after dissolving them in the commercially available Dehydrating solvent CE with Acetic acid added.



2. Apparatus

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

3. Reagents

Titrant	:	Composite 5K (made by RdH)
Solvent	:	Dehydrating solvent CE (made by Hayashi) Acetic acid

4. Example

—Measurement results—

Sample	Sample size (g)	Dehydrating solvent	Water content	
			mg	%
Hydroxylamine	0.0358	50mL of Dehydrating solvent CE + 10mL of Acetic acid	17.74	49.56
Hydroxyl ammonium chloride	0.0926	50mL of Dehydrating solvent CE + 10mL of Acetic acid	4.04	4.36

Please feel free to contact us for any further information.

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